2 FREE GIFTS

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SONG ATHLETICS **SOME DRUMS**
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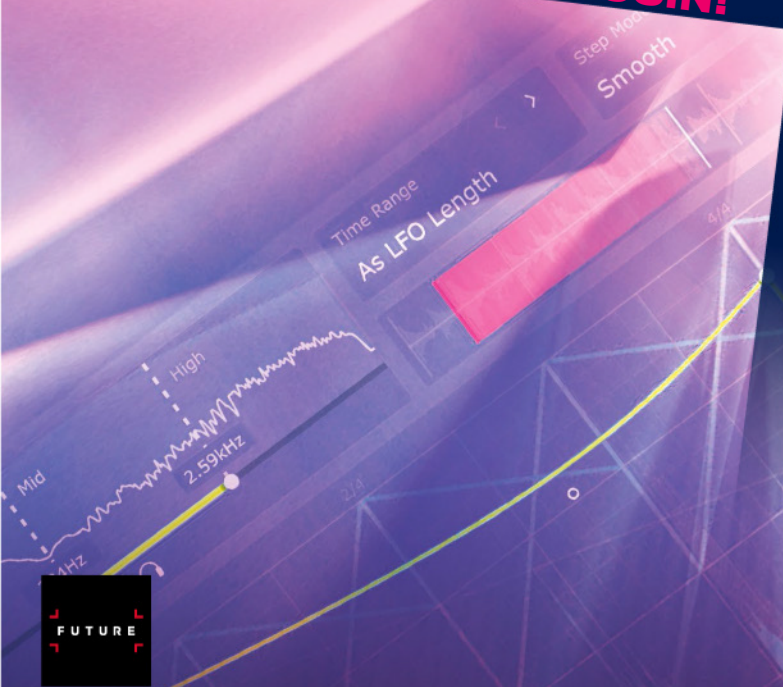
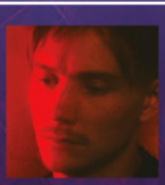


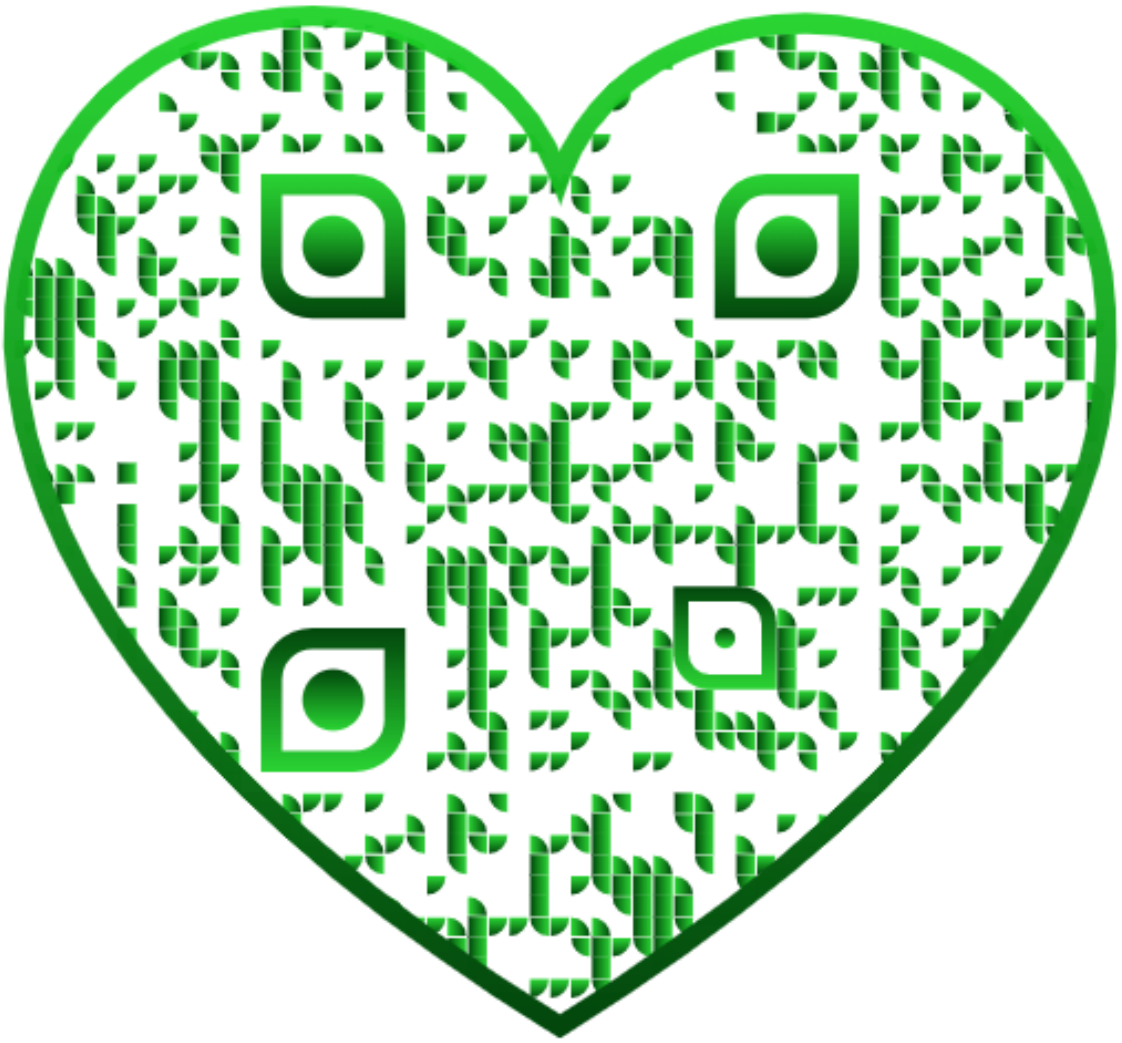
FUTURE

INTERVIEW
PEEL
Two thirds of Foster the People go it alone



INTERVIEW
KASBO
The Swedish DJ speaks about his new approach to mixing

TUTORIAL
PET SHOP BOYS
How to replicate their formula for synth pop success!



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Insert decades of analog echo history into your mix with EchoBoy. Its luscious tone and 30 built-in echo styles have made it the go-to effect for top producers, engineers, artists and sound designers. The EchoBoy sound has made its way into countless hit songs, movies, and games, just as it will find its way into every corner of your mixes. We promise.

"I use Echo Boy on almost every mix. It is so adaptable that I can always get what I want – quickly."

– Bob Power (A Tribe Called Quest, Erykah Badu, Citizen Cope, D'Angelo, De La Soul)

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See page 89 to find out how to download this issue's exclusive content

welcome

You might not realise it, but whenever you assemble music in your DAW, what you're essentially doing is bending the whole linear concept of time to your will. Even in the basic principles of capturing and merging instrumental performances, to slowing down, speeding up or matching a pre-determined BPM, you're taking musical moments that happened in the past, and placing them into your own little bubble of *now*, where everything happens all at once. When you start to think of music production in this way, then being more creative about your control of time becomes hugely appealing.

This month, we're stopping all the clocks and investigating the coolest methods to really disrupt the space-time continuum! From stuttering, reversing, vinyl-esque scratching and reality-altering time-stretching, our cover feature, beginning on p20, will guide you through this ever-widening vortex. You'll need a capable time-shaping tool for these purposes, and our friends at Cableguys have armed us and you with the perfect accompaniment to our feature, in the shape of a free install of their exemplary TimeShaper plugin. Head to p14 to learn how to get your copy exclusively with this issue.

We also speak to Song Athletics, a new multi-faceted music production company which has kindly provided us with our second free gift this issue, the full version of its superb Some Drums sample library. Find out more from p8 onwards.

We've also got our usual array of masterclasses, interviews, reviews, and yes: a duo of specially created sample packs. There's no time like the present to get started!

Andy Price Editor
andy.price@futurenet.com

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CABLEGUYS TIMESHAPER 3

How to use this month's free time-twister (it'll work a treat with our cover feature!)

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EPIC MODERN SCI-FI & MORE

This month's generous helping of sample delights include the audacious Epic Modern Sci-Fi and Emotional Strings

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MASTERCLASSES

Follow along with our in-house experts as they guide you through their top tips for mixing and synthesis

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cm/news

NEW RELEASES >COMMENT >INDUSTRY HAPPENINGS

Eleventh power

Version 11 of Auto-Tune has landed, but what does the vocal effect stalwart bring to our stuffed 2024 table?

> Makers of the original (and some would say, the best) vocal-tuning software, Antares has re-imagined Auto-Tune for 2024. Now in its eleventh incarnation, this latest update to the Pro Suite brings a massive array of new features and improvements to the uber-popular vocal production monster.

This new version of Auto-Tune Pro is equipped with Harmony Player; this handily enables users to layer up to four notes of tuned vocal at a time, quickly and effectively. Harmonies can be triggered via MIDI in real-time, opening up a vast amount of creative possibilities, particularly for live performers.

Each part can be individually adjusted by controls for pan, level and formant, while the master mix can be shaped with controls for EQ, envelope, gate and width. The software's Graph Mode, which lets users make precise adjustments to individual notes and phrases in a vocal, has been enhanced with a streamlined workflow and navigation features, while both Graph Mode and Auto Mode have been given a makeover with a refreshed user interface.

Auto-Tune Pro 11 also benefits from improved MIDI mapping, making it easier than ever before to control the software using hardware controllers. Auto-Tune Pro 11 is included with a subscription to Auto-Tune Unlimited for $24.99/month or $174.99/year, or can be purchased as a perpetual licence for $459.

If you'd like to try the software out, you can access a free 14-day trial. You can sign up. purchase and download Auto-Tune Pro 11 from Antares right now.

antarestech.com

All mod cons

Module8 finds SSL diverting down more of a creative sound design path than is usual. This plugin is designed to enhance vocals and add modulated movement to any instrument, all via a simple workflow, and with every effect and control on-screen and available to tweak. SSL says Module8 can be equally useful in an acoustic mix as it is in a more experimental electronic soundscape. It features a total of six effects, each with its own LFO. In addition, there are two more effects set as returns called Lo-fi and Space. Buy Module8 as part of the SSL's Complete subscription ($14.99 per/month), or SSL's rent to own option (two-week trial and 12 payments), or just buy it old school for a one-off fee of £79.99/$99.99!

solidstatelogic.com

Machine learning

Universal Audio has launched two new plugins that each have a number of retro saturation effects – or Machines – included. Verve Analog Machines is the headliner, in which you get 10 'Machines'. These varied saturation effects give everything you could possibly need in the old-school warmth domain. Each of its six main effects has two larger controls for LFO Rate and Depth, and smaller controls for different parameters depending on the effect. It comes as part of the standard UA subscription, or you can buy it for the one-off fee of £160/$199.

uaudio.com

Song Athletics: Setting a pace for the future

On the heels of a flurry of impeccably recorded sample pack releases, Song Athletics' ongoing aim is to enrich artistic expression in a broader music production sense. To that end, it's even co-branded a coffee range...

Song Athletics
Will Evans
Founder

cm: Firstly, what prompted you to start Song Athletics. Was it driven by things you'd observed or that you wanted to do in the industry?
WE: "It was a decision to create the music tech company that I've always wanted. That's no slight on any of the companies I'd worked at before [Will is the former CEO of Spitfire Audio] I suppose, having had the experience of working at a range of music tech companies, then having my own specific taste and area of interest. It was just really tempting and exciting to make a company that talks to the people that I'm most excited about talking to. Song Athletics is about delivering products, experiences and content for people like me.

"Those people I'd broadly categorise as fans of alternative music, who are interested in not just the music and its alternative-ness but a broader interest in sound, gear and the world of sound. We're talking studios, analogue gear and all that stuff, but also laptops and computing. Hi-fi playback, vinyl recordings. I love all that stuff, and I don't really wear different hats whether I'm being a music-maker or a DJ or a record buyer. For me, it's all the same thing; Song Athletics reflects that. Primarily, we're making tools for music-makers, but coming from a place of having a broader interest in sound and the love of music and recording."

It seems that 'culture' is a big watchword for Song Athletics, going beyond simply being a sample-making house or software company...
"It's important that we have both a deep understanding and appreciation of artistry. We're not about sonics for the sake of sonics, refining a sound because sound A is better than sound B. This is about having a foundational appreciation of what makes original and distinctive artwork in the form of music. My background in labels and A&R has given me the knowledge that the technology behind the music-making is just a tiny slither of the whole pie. To make great records, the biggest part of the pie is the artistry. What needs to be done to inspire artists, what needs to be done to help create that magic that will go towards something distinctive. That's less about making tools for refinement, which aren't interested in what the content is that you're working on."

Prior to releasing OSS, your first plugin, you launched with the Some Drums and AmBient sample libraries. Why were these first? And do they, in a sense, define a couple of the core strands of Song Athletics?
"Because I want the business to be very long-term, I wanted to stagger what we release in terms of complexity. I didn't want to go all-out with some mega-product as product 1. It's about introducing the brand, doing some small things, then building up over time as we become more comfortable with who our customers are. I wanted to start with sample packs.

"Drum samples are unanimously craved for, and people can't get enough of them. It just so happened that I'd come across Empire Sound and seen photographs of it. I just felt like we had to go in there and capture a great drummer doing something a bit more idiosyncratic and different. I had Marc Pell, who is my friend and one of the most amazing, idiosyncratic drummers on the circuit at the moment. That just felt like a natural starting point. Through that we could convey our ethos as well, because we had this really great studio and could record things properly.

"That's a really big part of Song Athletics: operating at a studio-grade quality. We go to the place and hire the people. AmBient was really just a continuation of that thinking. It's the first, more melodic product; a counterpart to Some Drums. I think that's a good format, to ping-pong between drums

and melodic stuff. We've got many more products coming, and we've got lots of samples on our hard drive. I love to throw them all at a session. It's just amazing how very quickly you can create the core of some very distinctive and interesting sounding music. I do think these samples sound a bit different. I've guided them away from the stuff you can get on traditional services. It's all a bit more left-field, weird and that's what we're trying to offer."

Do you think there's a growing appeal for the angle you're taking, leaning into the more unorthodox approaches?
"There's a world that takes the best of the weird, and incorporates that stuff into the biggest pop records on Earth. Loads of West Coast producers and artists draw from the underground in London and Europe. Where you see the likes of people like Travis Scott, James Blake, A$AP Rocky, Drake etc: big pop names, but their producers will borrow and pull in a lot of the weirdest stuff from over here to give a distinctive sound and feel. That's been a long-known strand. It's

> "To make great records, the biggest part of the pie is the artistry"

a relative niche, but it's one that I'm super excited about. The reason I love that is because it gets us, in our bedrooms or wherever we are, to think 'this is really weird, niche and peculiar', but it could be picked up and used as the bed of massive pop tracks."

Excitingly, the SRM Sounds venture feeds into what you're doing at Song Athletics, but has a more virtual instrument flavour to it. Can you talk us through your partnership with Max Richter, and how your relationship with him works?
"I think Max is someone [who] is an artist first and foremost. His own original music is what leads the charge and is so amazing. Then he also happens to do these other big film scores and collaborative projects and things like that. I've been a huge fan of his for ages, and see him as a real contemporary beacon for artistry. My background is in virtual instruments, so SRM Sounds was a way of coming together with Max as an outlet for all these virtual instrument ideas that he's got. He's got this incredible studio over in the Cotswolds, tons and tons of ideas for products. We're going to be spending a lot of time working on those and releasing them as instruments under SRM Sounds. There's no shortage of ideas or capabilities because he has this amazing space."

How many people are on the Song Athletics team currently?
"It's just me and a band of extraordinary friends and collaborators. Everyone in the team is also working on other pretty big creative projects. Our webmaster runs a renowned label in Scotland. The person who helps me out with samples works with a global pop star. Our designer is also a successful creative designer who lectures and has big clients all over the place. It's a distributed team of collaborators, for now. I see us just continuing to make products. I've always had a record label and have always worked for companies who just make lots of products. It's what I like to do. We're just going to keep making them."

You've stressed that you want your products to be simple and refined; do you think that a lot of music production software/sample instruments etc are often overly-complicated, deterring people from venturing too deeply into music production?
"Yeah, I think there is a load of complicated stuff out there. Even myself, after being involved in making music for a long time now (over 20 years!) still find it quite remarkable that some products require such a high learning curve. It's not that I'm against that. If you're a product developer and want to make things that are feature-rich and complex, then fine – that's your choice. I just know that how I – and lots of friends and artists who I've worked with – approach making music is about immediacy and simplicity. Something that gets sonically exciting very quickly.

"When it comes to making the tools for those sounds, it just strikes me [as good] to have fewer controls and have the software help you get to that sound quickly. We're building plugins right now, and they're going to be very light in terms of menus and controls – it's about doing one or two jobs quickly and simply so that there's a faster time between ideation and capturing it. That's what the simplicity is all about. When you actually watch some of these big producers at work, the creative part is typically very fast. There can be this illusion that big producers are meticulous and it's all expensive gear, and everything is carefully EQ'd. But it's not; people throw samples at things. Artists turn up for the 20 minutes they might be there in the day. They throw

Song Athletics' AmBient sample pack incorporated devices like the ReVox B77

Acclaimed drummer Marc Pell in action for the Some Drums sample pack recording

something down and then get on their way. But when these people are very good the music ends up being very good. The refinement happens after – it's a separate process. Those of us who have done bedroom producing for a long time, had the luxury of being able to fine-tune a melody with filters and EQs. But the bigger you go, the more that creative aspect is captured very quickly. We're like the front-bit of that. Go and make a big creative mess! Tidy it up later."

We should also mention the Yum Studio Brew – a superb coffee you've co-created that aims to encourage productivity and creativity in the studio. This comes out of your 'Research Center' division. What motivated that?
"Well, the Research Center is like our R&D wing, it's where we can test out theories, ideas and products that aren't fully thought-out. It's our experimentation zone. It's where we can collaborate with other people who are doing other things. Coffee is something that I love a lot and I've seen over the years that it's often a core element of studio sessions. Especially like a big room session, one of the most immediate things that's uttered is 'would anybody like coffee?'.

"Ultimately what Yum Studio Brew is, is an attempt to marry that studio situation with really good roasting and the actual artisanal side of coffee-making. It's an optimised studio brew. In a typical session you'd drink a lot of coffee, from a pot, and from a taste point of view, it's nice to not have that be too overwhelming. It needed to be something you can keep coming back to, something flavoursome and enjoyable. It's quite soft and tasty. There's a good video compilation of Dave Grohl on YouTube, screaming 'Fresh Pots!' at various sessions – a callout for someone to brew another pot of coffee. It's so essential. We've had some people ask 'when are you going to do the tea?' So... we'll see.

> "Refinement happens after; it's a separate process. Go and make a big creative mess! Tidy it up later"

"Beyond the coffee, we've got another few projects on the go. Next up we've got some USB sticks which sport our logo. They're going to be filled with special samples that you can only get in person. The idea being to encourage human interaction. If people see them, it becomes something that they'd go and grab for themselves. We've also got a few modular experiments going on too."

What's coming up next on the agenda for you guys? And can you give us any hints or indications as to what we might look forward to seeing from you later in 2024?
"Our latest sample library is a sample pack called Sloppy Drums. This was made with a guy called Chris Boot, it's inspired by J Dilla and Madlib. It's all kind of loose behind the beat type drums. We've got three or four more – including a big one that we've been working on for a long time. But we'll keep that under wraps for now. It's basically a 'super' sample pack.

"I had five collaborators work with me on it. It'll be our flagship sample pack that will be coming very soon. The first plugin we're working on is called 'OSS' [which was released shortly after this interview was conducted. *Ed*]. It's a one-shot sampler. The idea behind it is that it allows you to simply find your one-shots and then navigate through them really quickly like presets on a synth. You can customise the background of it too, you can drop an image into it and personalise it. I've got some ideas about how artists might use it in future. It's £40. Down the line, there'll be our first Song Athletics virtual instrument, which is separate to what we're working on with Max at SRM Sound."

For more information on Song Athletics, and to purchase its wares, head to songathletics.com

Sloppy Drums, helmed by drummer Chris Boot for Song Athletics, boasts "lazy complexity"

Song Athletics' very first plugin, OSS, helps you to find the joy in your one-shot collection!

Grab Song Athletics Some Drums for free with this issue!

Song Athletics has kindly provided us with a free download of the superb Some Drums!

> To complement our interview with Song Athletics this issue, we've been kindly provided with a free download of the company's inaugural release – the impeccably recorded Some Drums sample pack, which is usually priced at £25. But, because you've picked up this issue of *Computer Music*, you can grab it absolutely free. We'll turn to the company themselves to describe how the pack was put together: "We took drummer Marc Pell (Good Sad Happy Bad, Mount Kimbie, Suitman Jungle) to Empire Sound on the Isle of Wight to record posh drum samples that will add a sense of space and depth to your music. They're versatile enough to integrate into just about anything. Taking full advantage of the spacious live room and unique gear/setup, we captured Marc performing a variety of styles – from straight to experimental – to arrive at a package that sounds great, right out of the box. Stems are also included, so you can mix and destroy the signals to your heart's content."

How to download your copy of Some Drums

1. Head to this month's download page at: **bit.ly/cm335downloads**
2. Once you've answered the questions to prove your purchase, you'll be presented with the list of downloads for this issue. Scroll down to 'Song Athletics Some Drums' and copy the unique coupon code.
3. Head over to **songathletics.com/products/some-drums** and add it to your cart. Apply the coupon at checkout and you'll receive a 100% discount (Some Drums is usually £25!).

RECORDING NOTES

Here's the technical overview of how Some Drums came to be recorded. The pack was captured using a 1960s Ludwig 20/12/16 kit. The signal path is as follows:

Kick (outside): Chandler TG via Neve 33115 preamp

Kick (inside): AKG D112 via Neve 33115 preamp

Snares (top and bottom): SM57 via Neve 33115 preamp

Hi-hats: Beyerdynamic M160 via PYE preamp

Toms: Sennheiser via PYE preamp

Overheads (x2): Earthworks via Neve 33115 preamp via Thermionic Culture Vulture

Rooms: Aston via PYE preamp

Trash mic: Telefunken via PYE preamp via Distressor

Delay: SM57 via Roland Space Echo RE-201

INCLUDES:
+40 drum loops
+40 drum stems
+80 one-shots
48kHz, 24bit
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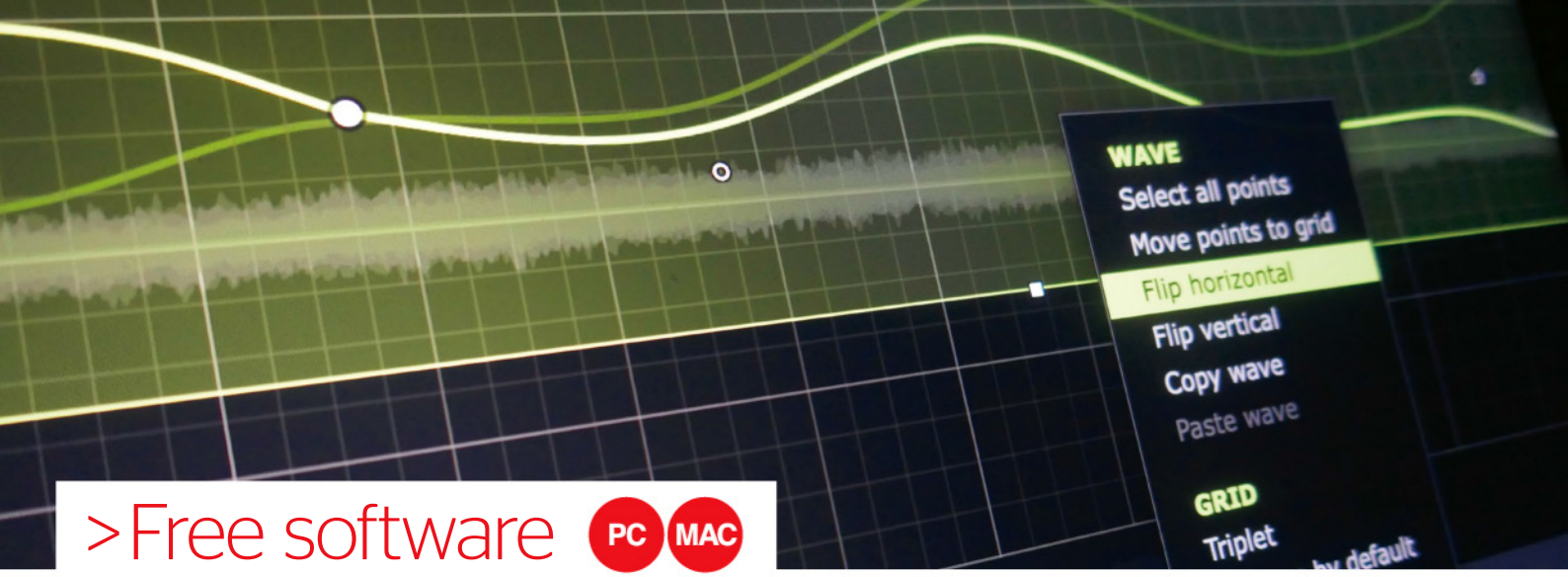


>Free software PC MAC

Cableguys TimeShaper 3

Before we begin our time manipulating odyssey, get to know this month's free plugin, which serves as our main time-twisting tool!

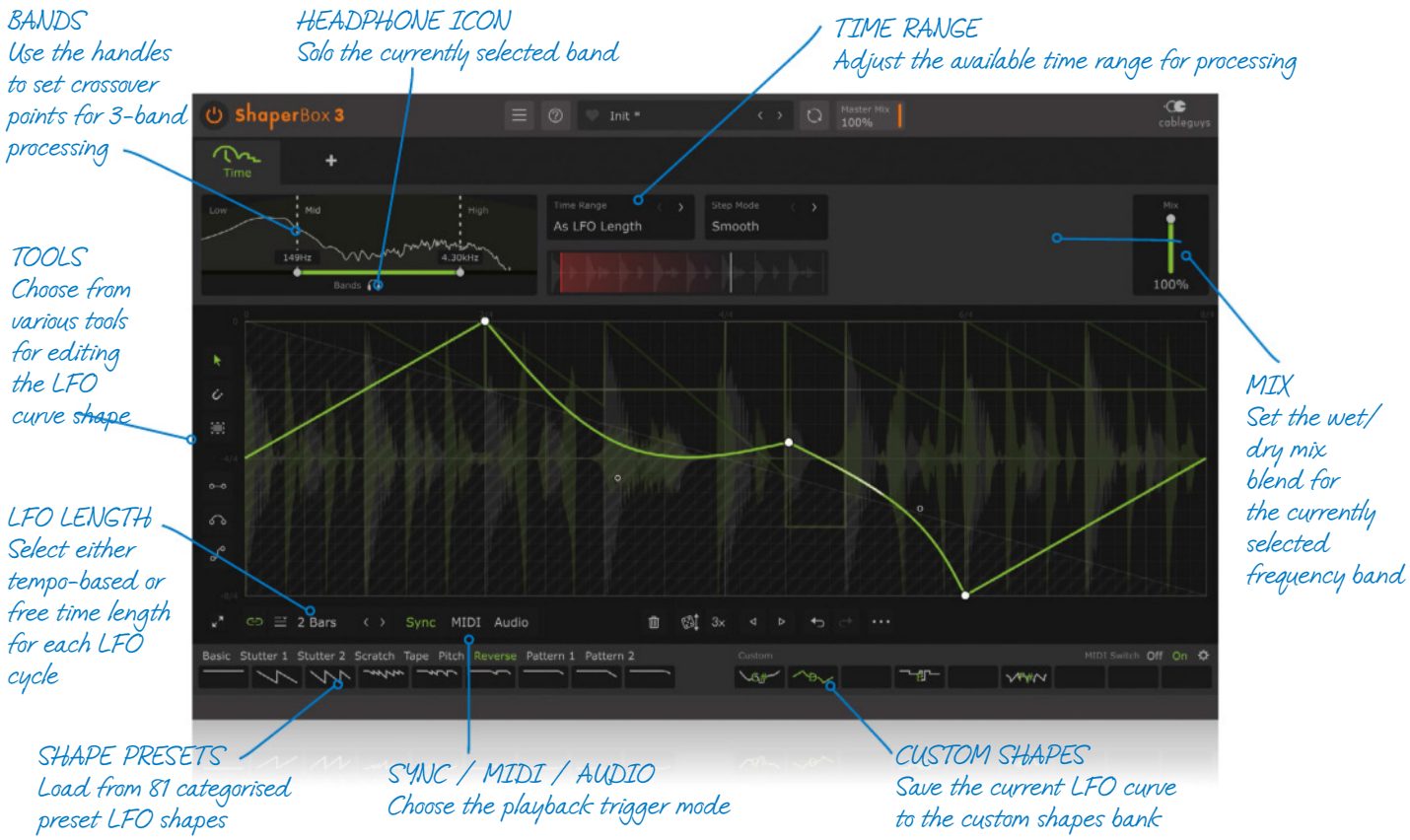
> We have enjoyed a long-running relationship with the team at Cableguys and you'll find the excellent Curve 2 CM synth within our CM plugin suite (free with every issue, see our downloads page). This month, in conjunction with Cableguys and to tie in with our time manipulation feature, we bring you your very own free copy of TimeShaper 3 (normally €29).

TimeShaper 3 (VST, VST3, AU, AAX) is a multifaceted real time plugin that buffers the incoming audio, letting you reorder, reverse, start/stop, stutter and warp your audio all via a simple graphic display. By default it syncs to your DAW playback but can also be triggered via MIDI or the incoming audio threshold. It's also multiband capable (up to three bands), which further expands its creative potential.

In this tutorial we'll look at how to get it and what it can do. In the final few walkthroughs, we'll take a dive into some of the classic and creative effects the plugin can achieve.

TimeShaper 3 is part of Cableguys' ShaperBox 3 family and runs inside its host plugin, which is a powerful multi-effect framework. This means you'll be installing ShaperBox 3 so you can run TimeShaper 3 and access demos of other ShaperBox modules. Demos are fully functioning but with no parameter saving. If you want to unlock the full ShaperBox 3 bundle, you'll find your TimeShaper 3 registration provides access to Cableguys' discounted upgrade path (€/$89).

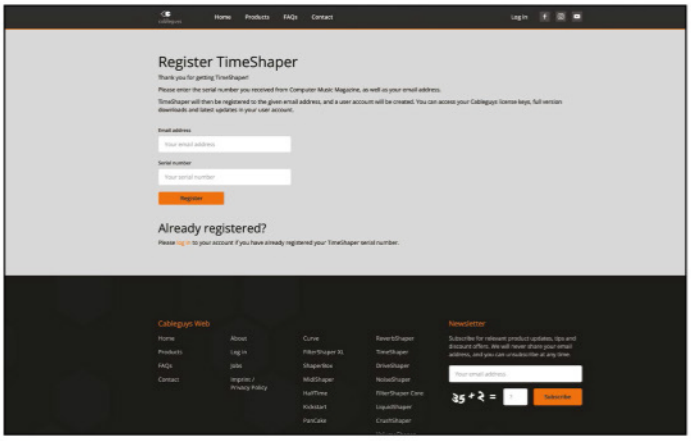
For more info about Cableguys' software including the new ReverbShaper plugin, head to www.cableguys.com.



Download the accompanying video and the MIDI/audio files at **bit.ly/cm335downloads**

> Step by step 1. Installation

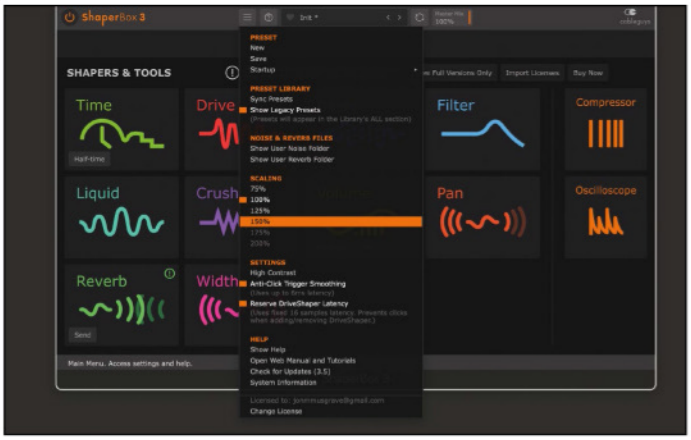
1 > To grab your free copy of Cableguys TimeShaper 3 head to this month's *Computer Music* content page bit.ly/cm335downloads. With your issue to hand, answer the questions and then follow the instructions to get your own personal TimeShaper 3 serial number. Now head to www.cableguys.com/register-cm to register your code.



2 > Enter your email and serial number to create an account. Log into your account and download the ShaperBox 3 installer plus a licence file. Run the installer and launch your DAW. Loading ShaperBox 3 will prompt you to locate the licence file for authorisation.

> Step by step 2. Familiarisation

1 > To get started with TimeShaper 3, load an instance of ShaperBox 3. This framework plugin has 10 effects including TimeShaper 3. Any effects that you don't own are available in demo mode (they have exclamation marks). Be aware that their settings will not be saved.

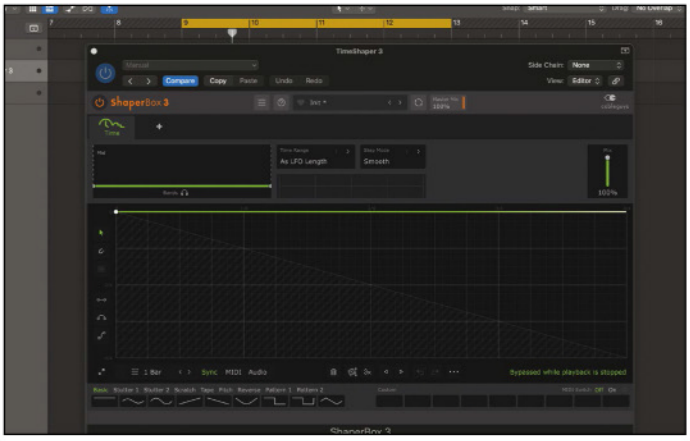


2 > Before loading TimeShaper 3 (Time) module, note that the top bar gives access to the preset browser and the Main Menu. Settings include user preset saving, preset library options including online syncing of the latest library, plugin window scaling, licence and more.

3 > To load the Time effect with default settings, click the module icon. The icon also includes a half-time option which loads the module with the correct parameters for a classic half time pitched and slowed down effect. Once loaded, Time becomes a tabbed panel.

4 > In essence TimeShaper 3 is a delay with an LFO that controls the delay's time parameter. It can also process up to three separate frequency bands. Each band gets its own LFO and you create LFO curves using the tools on the left and/or preset curves, lower left.

> Step by step 3. Understanding the interface



1 > To get the most out of TimeShaper 3, it's vital to understand what the display is showing and how its LFO curve affects the audio. Load a fresh instance with a single frequency band set at top left. Keep the default playback mode (Sync), which follows DAW tempo.

2 > There should be a single horizontal line at the top of the LFO display. This shape effectively puts the LFO in bypass and if you play some audio, you'll hear the plugin doesn't change anything. However, you should see the audio waveform drawing in the background of the display.

3 > The scale of the display is set by two parameters. The bottom left parameter sets the LFO length (currently one bar) and the Time Range at the top sets how much maximum time offset you can apply. The LFO length is the X axis of the display, while the Y axis is the offset amount – zero at the top and maximum at the bottom.

4 > With our settings, the LFO controls one bar length with a maximum time offset of one bar. To demonstrate if you draw a straight line at the fourth quarter note and down by a quarter of the grid, the third quarter note is played instead of the fourth quarter note.

5 > With that basic concept understood, if we were to get a bit more creative we can successfully reorder our audio in both radical and subtle ways to create chopped up and stutter effects. There are plenty of drawing tools to assist us, but if you're struggling to make headway you'll find excellent advice here: bit.ly/cableguys_shaper.

6 > Using horizontal lines has no impact on pitch. However, once we start drawing diagonal lines, TimeShaper 3 affects pitch, creates stops and even results in reverse audio, and we will look at this later in the tutorial. Here our diagonal line upwards results in the audio speeding up.

> Step by step 4. Playback modes and concepts

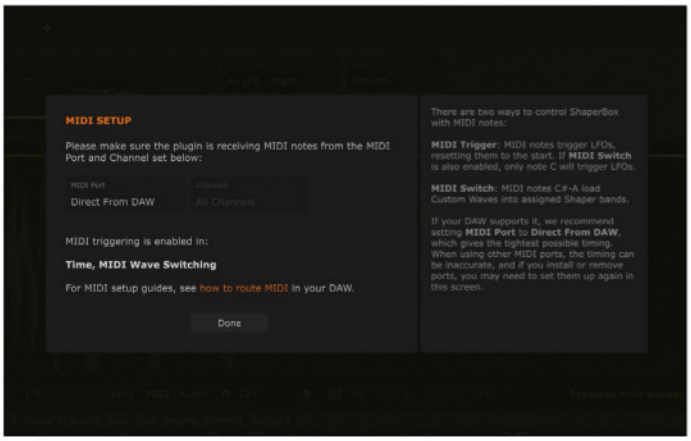
1 > By default, TimeShaper 3 loads in Sync mode. This is pretty easy to understand, particularly as the default frequency is one bar. With some audio loaded, if you hit your DAW playback you'll see that the LFO will start at the top of the bar and repeat every bar. This basic setting is of course ideal for rhythmic effects.

2 > Still in Sync playback mode, you can also select a free time LFO and this will be represented in Hertz (0.02Hz to 5.24Hz). The cycle still resets when you restart playback, but without being grid-synced this opens up very different outcomes. Here we're using a legato pad sound to investigate different LFO frequency settings.

3 > Nevertheless, if you click on the frequency parameter just to the left of the playback mode, you'll see a massive array of synced timing options. Set this to ¼ for example and the LFO, as represented by the whole display, will cycle every quarter note. And you've also got triplet and dotted options, for more complex LFO timings.

4 > Now select the Audio trigger mode. You'll see this initiates three further icons. The cog opens the threshold setting and visualiser. The loop option defines whether or not the LFO loops continuously until it's next triggered. The third icon activates the external sidechain so you can trigger the LFO from another sound.

5 > The audio trigger is a ShaperBox 3 global option. You have lots of parameters including filtering, sidechain listen and three algorithms: Drums, General and Complex. Still, the main parameter is the Threshold and as you adjust this, the threshold timeline display at the top changes, with orange lines showing when the threshold is met.



6 > Finally, you can trigger TimeShaper 3 LFOs using MIDI. DAWs have their own ways of configuring MIDI control of plugins and Cableguys has an excellent breakdown here: bit.ly/cableguysfaq. Once that's been set up, you can use MIDI notes to create interesting LFO trigger patterns.

> Step by step 5. Effects basics

1 > TimeShaper 3 clearly suits tempo-synced 'chop 'em up' style effects. Let's look at some core options. We've loaded up a four-bar synth part and want to apply a looping stutter effect that cycles on one bar. From the Stutter 2 menu at the bottom, we've selected the second preset pattern.

2 > With all horizontal steps, this LFO will not affect pitch, which is precisely what we want for our stutter effect. The display also demonstrates an interesting aspect of TimeShaper 3, namely the grey shadow line in the background. This line helps us see which position represents the bar start point.

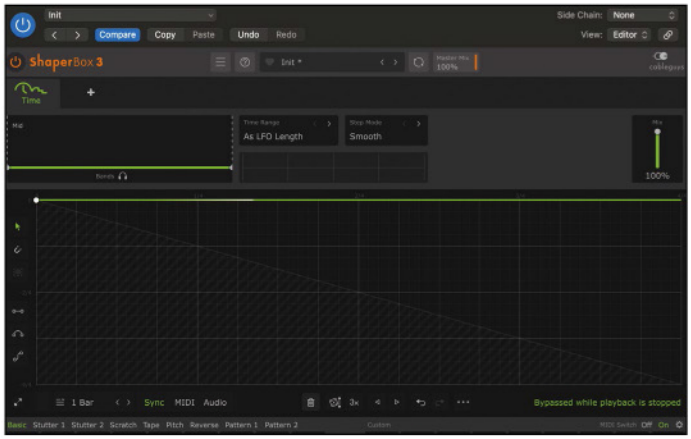
3 > For the first half of the LFO, the lines all hit the grey diagonal line. This means that each of these stutters is starting from the beginning of the bar. As the LFO progresses, audio is repeated from later beats in each bar. If you set your line below the diagonal, it will play silence initially, as the buffer is empty.

4 > Now let's try a tape-stop effect. From the Tape category we've chosen the curve Tape-stop 2. This starts horizontally, which, as we know, means no change in pitch, and then gradually curves to a point at halfway. Playback with these settings and one-bar length results in a record or tape stop effect, culminating halfway through the bar.

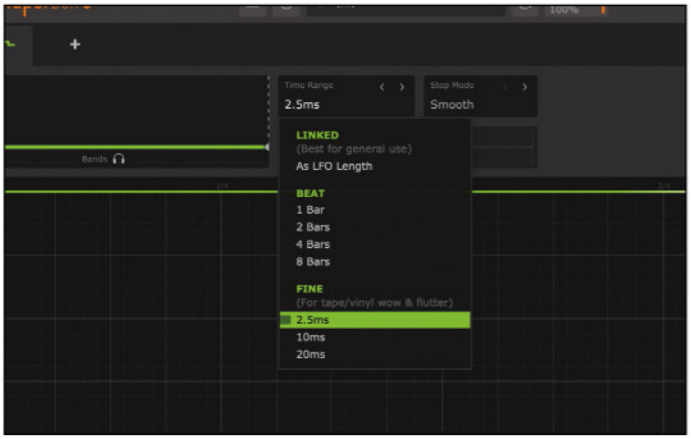
5 > Once again we can look at the background grey line to understand why this is. We already said sloping lines affect pitch. Here the downward slope pitches the audio down. However, once the LFO line reaches the same slope as the grey line, the audio stops. That's exactly what happens here halfway through the bar.

6 > You'll see there are plenty of other presets in the section at the bottom, including Vinyl Scratch, Pitch and Reverse alongside a bunch of more regular shapes. If you hover your cursor over the preset shape, the info bar at the bottom tells you what it is or what effects it can be used for.

> Step by step 6. Short delay effects



1 > It should come as no surprise that, being a delay-based processor, TimeShaper 3 can also deliver effects that rely on much shorter delay times, adding a whole host of extra applications. Let's take a look at a few of these. In order to get started, we've loaded up a basic pad sound.



2 > Let's begin with a tape wow and flutter effect. We've used the bin icon in order to clear the LFO display. Rather than let the Time Range follow the LFO length, start by using the Fine settings from the Time Range menu. We've set ours to 2.5ms, so the vertical axis has a very modest impact.

3 > For a wow and flutter effect, we need a smooth change, so we've loaded the Sine-like preset from the Basic category. This delivers a noticeable effect, and if it's too deep, a quick way to reduce the curve is the 'select all points' tool. By using the handles at the top and bottom we can suitably adjust the whole LFO waveform.

4 > Sticking with this effect, it's actually pretty easy to move onto a simple flange effect. For this to work, make sure you have some higher frequencies in your source sound. Now all we need to do is blend in the dry signal using the TimeShaper wet/dry Mix control. We've set ours to about 55%.

5 > One of the great things about TimeShaper 3 is that you can customise the LFOs very precisely and that can be very handy for effects such as flanger. Our basic flanger effect clearly has certain points in the LFO cycle where it sounds really good. By adjusting the LFO, we've managed to focus on those specific moments.

6 > Finally, any of these subtle effects can be finessed by combining similar LFOs across multiple bands. Here we've saved our LFO curve to a Custom slot and then adjusted the multiband handles to activate three bands. Loading the custom curve into one of the bands, we've then used the curve tools to flip it horizontally. **cm**

4/4
Step Mode
Smooth
Time Range
As LFO Length
High
2.59kHz
4/4
2/4

CREATIVE TIME EFFECTS

It's the family of effects that brought you some of the world's coolest sounds. Yes, follow our guide and time *could* mean money for you and your music

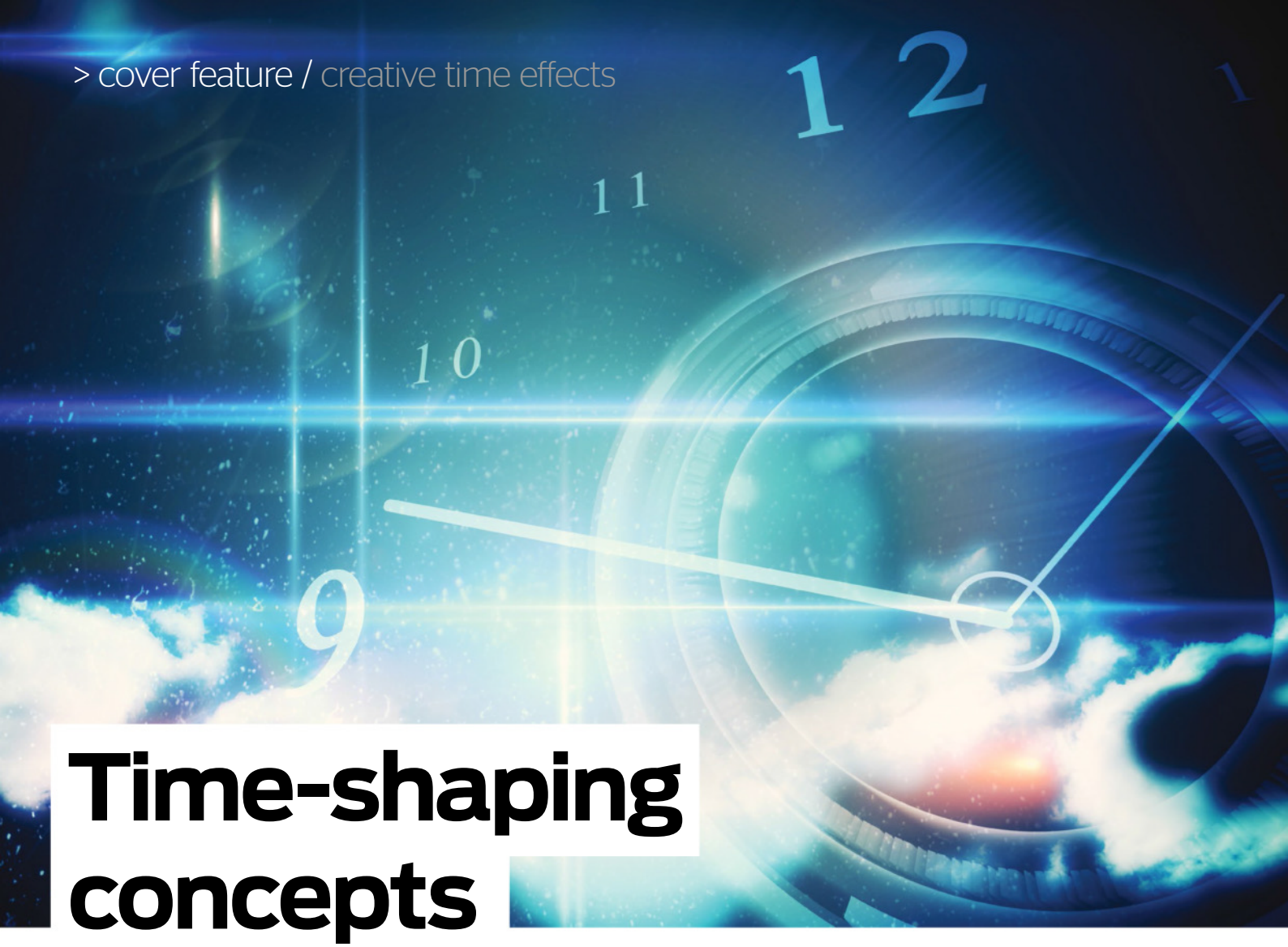
> The ability to mess with time, adjusting the playback speed, position, direction and pitch of our audio is one of the most enticing and creative aspects of music production. Take a tour through the history of recorded music and you'll find each technological development, from analogue tape/turntables, to digital processing, sampling and DAW-based production, has made its mark. In essence you now have an awesome set of creative options derived from decades of change.

The time manipulation toolset in your DAW usually covers the basics, including delay-based effects, time-stretching and often warp-based editing so that you can adjust the timing of a vocal or nudge a few beats in a drum performance without affecting pitch.

Even so, contemporary plugins such as this month's rather apt free software – Cableguys TimeShaper 3 – allow us to do so much more, delivering enhanced control and finesse to traditional delay-based effects, alongside powerful and creative modulation.

In this feature we'll start by looking at the overall topic of time manipulation, including the available tools, effects and outcomes they can achieve. Then we have six walkthrough tutorials. These cover the more creative options including reverse audio, stutter/glitch, tape start/stop, reverse reverb, vinyl scratching and adding swing to audio. Some of these use typical DAW features and others use Cableguys TimeShaper 3; check out the previous tutorial to get your free copy.

If you're looking for inspiration, you'll find plenty of name-checked tracks in our history of backwards audio. Meanwhile if you're interested in creative time-stretching but don't know where to start, we've also collated five classic tracks that use this highly audible effect. Rounding things off, we've got a bunch of time manipulation tips to help spark your creative mojo. Time for us to get manipulating some sounds!



Time-shaping concepts

Thought that the domain of time-manipulation started and finished with delay? Time to think again!

Time-manipulation forms such an integral part of our production toolset that it's easy to ignore how powerful, flexible and impressive it is. In this feature, we're focusing on some of the more sonically interesting routes. Even so, it's worth defining exactly what we mean by 'time-manipulation', the sort of processes that it includes and the sort of effects it delivers.

Expect delays

It may not seem impressive, but the humble delay has a lot to answer for, particularly in time-shaping terms. So whether you're in a retro mindset, trying to recreate a tape-style slapback echo or tweaking the early reflections of your top-end chamber reverb plugin, in both cases you're working with delays. In fact, let's just list a few examples; solid-state BBD delay (capacitor-based adjustable delay line), digital delay (sampling-based modulated delay with feedback), flanger (delay plus dry signal), chorus (modulated delay plus dry signal) and digital reverb (multiple delays with feedback). Indeed, if you factor in some of the more esoteric hardware options, such as the oil-can echo, delay has played a vital part in music production for decades. What's more, if we bring things right up-to-date and get into the effects possible using contemporary plugins such as (this issue's free gift) Cableguys' TimeShaper 3, we're still essentially talking about delay, albeit with powerful graphic control over the delay time and changes to that delay over time.

Avoiding the gimmick

If you're looking for another time-manipulation concept with a long-running heritage, then backwards audio is it. We'll delve into the history of this many-faceted technique in our 'Backwards is the new forwards' pages. Even so, there's no doubt this effect can be a bit of

For lengthy stretches, try the PaulXStretch – the X stands for extreme, with good reason

a gimmick, and like many effects, was overused when it first appeared. Nowadays we have many ways to reverse audio and take a more task-specific approach to the whole thing, so if it's just a section of audio you want to reverse, then in many DAWs you can simply flick a switch on the clip parameters. That said, this won't work for instrument tracks, or more complex processes such as reverse reverb, and it's these that we tackle in our walkthroughs. Indeed, of all the backwards audio effects, reverse reverb is not only one of the most beguiling but also one of the most useful, as it can be used in so many different ways. In our tutorial, we go back to basics and explain the easiest way to achieve this effect in our DAW. Sticking with backwards audio, we also take a look at how we can use TimeShaper 3 to selectively reverse sound in real time. You might also want to check out the tips section where we talk about using backwards sounds and effects such as reverse piano as transition effects.

Reverse reverb is one of the most beguiling effects but the most useful

Quite a stretch

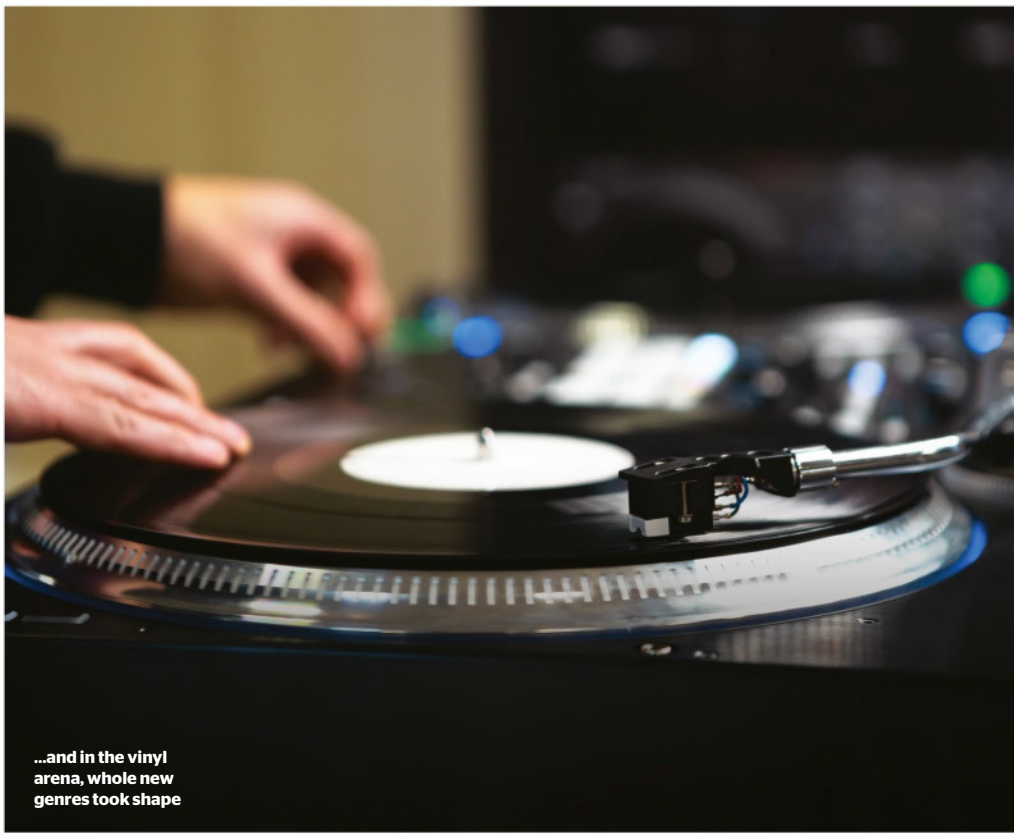
When it first appeared, the option to manipulate pitch and time independently was pretty revolutionary, and meant you could speed up or slow down audio without affecting pitch, or change the pitch without affecting timing. We refer to these as time-stretching and pitch-shifting respectively, but they're basically two sides of the same coin. What's more, although we talk about time-stretching, the process can either stretch or compress the audio depending on the stretch ratio you apply. In the early days, the process of resampling the audio was slow and often sonically compromised. Nowadays, although extreme settings still create artefacts, the process is quick, reliable and built into options like marker-based warp editing. From a user perspective, this can be more like a background process, letting you focus on being creative. Nevertheless, creative use of more audible time-stretching is still a valid technique, and in our creative time-stretching pages we've picked a few tasty examples. Also, check out the tips section for more on classic time-stretching.

Just a scratch

In the analogue domain, changing the playback speed of tapes or records results in a change in pitch. Seems harmless enough but in the case of records, and coupled with some forward and back manipulation, it spawned one of the most distinctive creative techniques of the 20th century: scratching. Meanwhile for tape users it led to a bunch of highly usable effects when you start, stop, rewind and fast forward the machine. Part of what makes each of these effects recognisable is the individual way the pitch of the audio changes, and this in turn gives the impression that time is being manipulated. Recreating these effects in your DAW is often best left to bespoke plugins that model each behaviour, and we use one of these in our tape start/stop walkthrough. That said, some plugins such as TimeShaper 3 offer a more flexible pathway, and if you want to find out what it can do, we've dedicated a walkthrough to using it to create scratching effects.

Raymond Boyd/Michael Ochs Archives/Getty Images

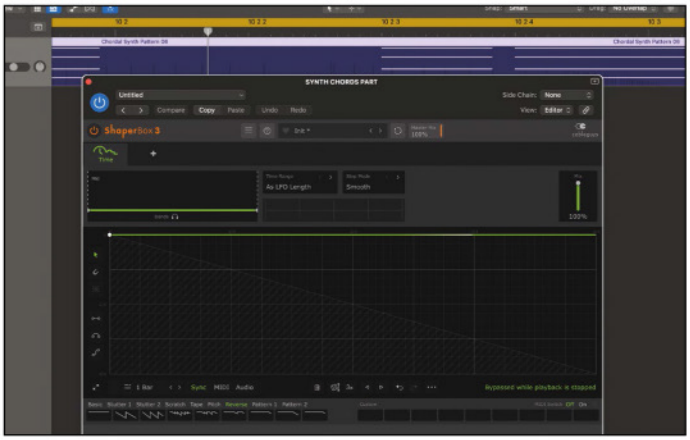
In tape world, when people started going beyond the usual transport options, magic arose...



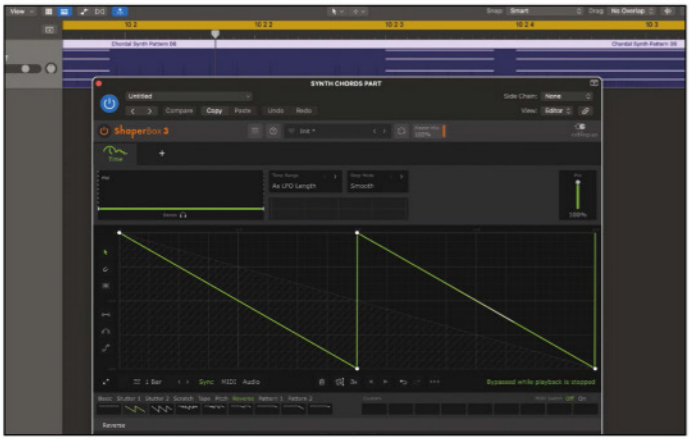
...and in the vinyl arena, whole new genres took shape

> Step by step

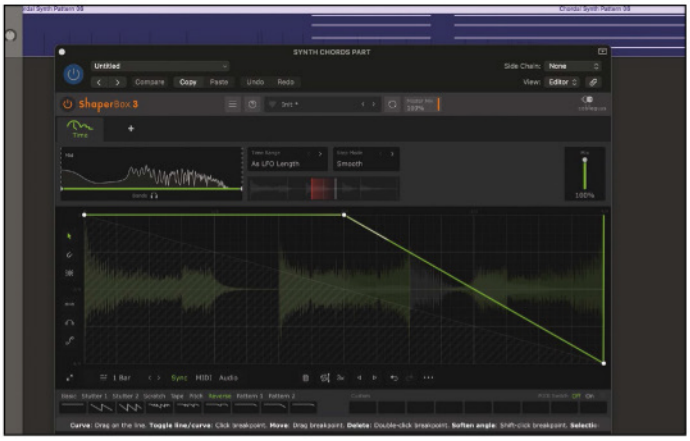
1. Reverse playback with TimeShaper 3



1 > The most obvious way to achieve reverse playback in your DAW is to use a clip reverse option or offline process. This works fine for audio, and is often a good solution. However, it doesn't work for MIDI instrument tracks or offer the creativity of a real-time plugin, and that's where TimeShaper 3 can help.



2 > Here we have a MIDI instrument synth part and the choppy nature makes it an ideal candidate for some creative reversing. Let's start with a simple reverse effect. We've loaded an instance of TimeShaper 3, making sure it's set to one bar in length, and from the Reverse presets we've selected the second option: Reverse.



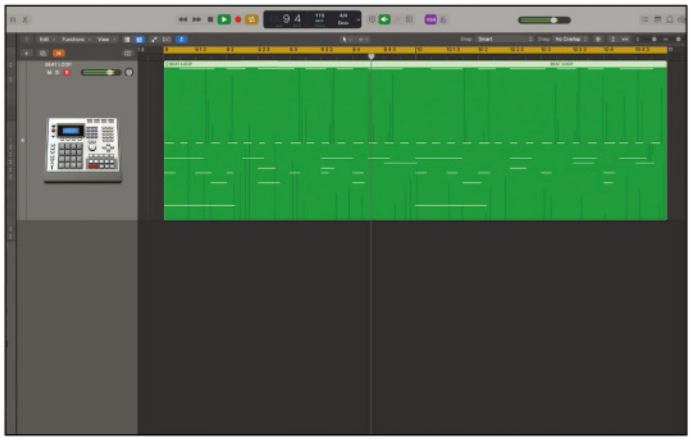
3 > If we now make a simple adjustment to the LFO curve, so that the first half is flat at the top, we'll get a simple effect. Hit play and you'll hear that the first half is forwards and the second half backwards. Look at the mini time-offset display above and you should see the red line also indicating this forward-backward behaviour.

4 > In our introduction to the TimeShaper 3 tutorial (p14) we established that the background grey line is very important in determining how the plugin behaves. Here we see that the slope of the LFO is steeper than the grey line and thus it delivers reverse playback. The LFO also ends on the grey line, which is the bar start-point.

5 > Now adjust the LFO grey line intersection, making it arrive sooner: we've snapped this to sit on quarter note 3. This will speed up the reverse audio to reverse two quarter notes of audio in a one quarter-note duration. We've added a final reverse section starting halfway through the bar that reverses one quarter-note at regular pitch.

6 > Armed with this knowledge, try one of the more complex reverse presets. We've loaded Reverse Rhythmic. You'll hear that it combines reverse sections with regular forward sections. This is precisely what the LFO tells us, with sped up and regular speed reverse sections indicated by the slopes of the curve.

> Step by step 2. Create stutter and glitch sounds



1 > There are various ways to create stutter and glitch type effects, and simply chopping the audio and rearranging it is always a valid option. Again, though, this won't have the convenience of a plugin and can't handle real time input like software instruments can. The process works well with rhythmic material and we've loaded a beat loop.

2 > TimeShaper 3 is great for these sorts of effects, and we looked at some basic concepts in the TimeShaper 3 introductory tutorial. This time, let's take things a bit further. To get started, load an instance of TimeShaper 3 and head to the Stutter 2 preset menu. We've chosen the Repeat Fill.

3 > We've also set the LFO length and Time Range to two bars so we can work on a full two-bar section. Using the line tool and grid snap, it's quite easy to modify the preset and even use quite small slices. You'll see a lot of the lines hit the diagonal grey, so they're repeating the top of the section.

4 > Clearly, with the horizontal lines, there are no pitch changes and no reverse sections. These are easy to introduce. Let's start with pitch. By using very subtle slope changes we can increase (slope up) and decrease pitch (slope down). Here we've added these to just three of the kick repeats, but the effect transforms the section.

5 > For reverse sounds, we need the slope to be greater than the background grey line. However, the steepness of the slope plays an important role and, with a very steep slope, the audio will be reversed and sped up. Here we've added a subtle reverse section just on the last 1/8th note of bar 2 as a lead into the loop repeat.

6 > Finally, it can be great fun blending your stutter effect with the dry audio. In fact, there's more than one way to do this. At the simplest level, you can simply automate the wet/dry mix, but it's more creative to use the multiband feature. By automating the crossover points you can create quite complex blends of dry and processed parts.

> Step by step

3. Reversing your reverb

1 > This technique is a great pre-effect for vocals and other lead instruments and although we can get an approximation by using envelope-based reverse reverb algorithms, to truly tailor the sound it's best to go back to basics and replicate the traditional tape-based method inside our DAW. Here's how it's done.

2 > The idea is to create a backwards reverb tail that leads into the sound that created it. To do this, you have to reverse the original audio and then send it to a reverb. Here we've copied and reversed a vocal part, put it on a fresh track and set up a reverb as an insert with the mix blend at 100% wet.

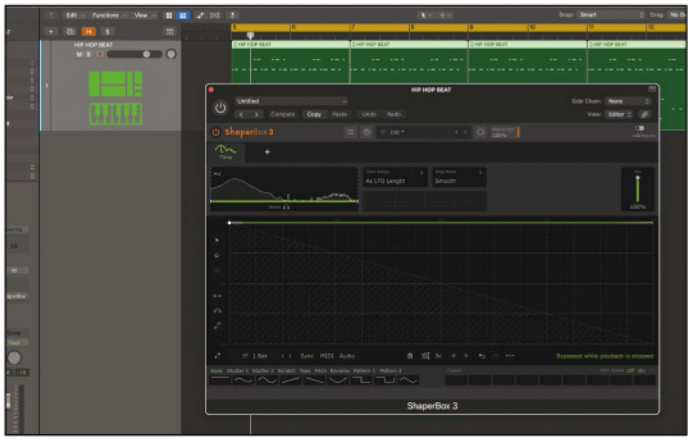
3 > The type of reverb used will depend on what type of effect you want to create, but in general terms, long reverbs don't work that well, as once they're reversed, they simply take too long to build up. The most reliable option is a medium reverb with plenty of early reflections. Here we've chosen a medium room with 1.5-sec decay.

4 > With everything set up, it's simply a case of bouncing the reverb effect. As mentioned, make sure you're only bouncing the effect and not the source, as you'll balance the source and effect in the next stage. Import the effected audio and reverse it. You should have a backwards-sounding reverb.

5 > Now return to your original source audio and line up the reversed reverb audio. Find the final decay section, which will now be at the beginning of the waveform, and move the file so this peaks at the beginning of your source audio. We've done this above, and you can see that the main body of the reverb is louder.

6 > The effect works best where there are gaps between the source so you can actually hear the reverb lead in. Also, you probably don't want to hear the reverse reverb elsewhere. To that end you can potentially remove those sections altogether, or as we've done here, use automation to ride the levels accordingly.

> Step by step 4. Vinyl-scratching in software



1 > In the hardware domain where you're using turntables, CDJs or some other controller built for the job, creating scratch effects is easy to understand. In the DAW domain, options are a bit more limited. However, this is something that's very achievable using TimeShaper 3 and this is how you do it.

2 > We've loaded up a hip-hop loop and our session is at 90bpm. As we've seen, TimeShaper 3 can achieve forward and backward effects based on the slope of the curve relative to the background grey line. To achieve scratching effects, we also need the LFO curve to have a particular shape.

3 > Start with a one-bar curve and grab the S-curve tool from the toolbar. Drag the S-shape to create an eighth note section, using the size of the curve to create the depth of the effect. Here with one-bar-length LFO and one-bar Time Range, a small amount is all it takes.

4 > Use the curve handles to learn how the curve shape influences the timing and pitch of the effect. Then use the S-curve tool to place the move in more strategic places. So, if we want to introduce a scratch using the downbeat of the loop, but place that at quarter 2, we need the curve to intersect the grey line at quarter note 2.

5 > Scratching is often repeated rhythmically and to achieve this, all we have to do is repeat the same move, which is what we've done here. Once again, making sure each section of S-curve hits the grey line we can keep returning to quarter note 1. Here we've also introduced a double-speed scratch later in the bar.

6 > As we're using a plugin to create this effect, we have the flexibility to process the main output or a submix bus, and here we've routed some of our tracks to the effect and some directly to the output. This offers loads of creative potential and of course is a technique you can use with many of the TimeShaper 3 effects.

Reverse audio

Backwards is the new forwards: the history of reverse audio in music

The use of reverse audio in mainstream music really took off in the mid to late 1960s. However, to find the roots of this development we have to go back a bit further and consider a couple of significant changes. The first of these was the arrival of magnetic recording tape. This new medium and accompanying reel-to-reel machines revolutionised audio recording, and first found widespread use in broadcast and audio production in the 1940s and 1950s. Significantly, the open deck design meant that by running the tape to the end and taking the right hand spool, turning it over and reloading it onto the left-hand side of the machine, you could play your whole recording backwards. Initially, this would have been viewed as a strange and unusable byproduct, but that was all about to change.

The second catalyst was a shift in attitudes to musical composition and in particular a progressive electronic music form known as musique concrète. Spearheaded by French composer Pierre Schaeffer, this involved a move away from scoring written notes for instrumentalists to play. Instead composition used snippets of recorded audio or 'concrete sounds', thus placing the composer in control of not only the notes but also the final sound. Combined with the newly available tape-recording technology, musique concrète was able to use a multitude of tape techniques including micromontage (joining together small snippets), looping, pitch variation and of course reverse audio. The movement attracted a bunch of avant-garde composers, including one Karlheinz Stockhausen. He then took these ideas back to Germany and the studio of German national broadcaster (WDR) where he began to combine electronic synthesis, musique concrète and other compositional techniques.

Stockhausen gained considerable traction in the '50s and '60s, and became a popular reference point for both jazz and mainstream artists like Miles Davis, Frank Zappa and The Beatles, all of whom would employ tape manipulation techniques at some point. Nevertheless, the first use of reverse audio in popular music can actually be traced to a 1959 release called *Car Trouble* by The Eligibles. The band were a four-piece vocal harmony group

Karlheinz Stockhausen and other pioneers walked so that we could run (at triple-speed)

and the track couldn't be any less avant garde. However, it reverses a couple of sections of spoken vocal to hide the retort from a teenager's angry parent. This inadvertently created a production technique called backmasking, which has since been used in all manner of music genres. It didn't take long for reverse audio of musical sounds rather than vocals to also get used, and maybe unsurprisingly it was the BBC's very own Radiophonic Workshop who delivered the goods with the groundbreaking *Dr Who* theme.

By the mid 1960s, the concept of reverse audio, although established, hadn't become mainstream. However, as The Beatles began to flex their creative muscles, it was the *Revolver* sessions, including the B-side *Rain* that kicked things off. Using the technique for both vocals and instrumentation, they had both the opportunity and audience to put the technique centre stage, and the tracks *Tomorrow Never Knows* and *I'm Only Sleeping* are perfect examples of how you can use backwards sounds musically without it becoming too gimmicky. Once established, the technique fit in well with the psychedelic music of the late 1960s and although The Beatles continued to use it on the *Sgt Pepper* album, other artists such as Jimi Hendrix and Pink Floyd jumped on board. A good example is *Are You Experienced?* by the Jimi Hendrix Experience, which includes backwards drums and guitars. Around this time,

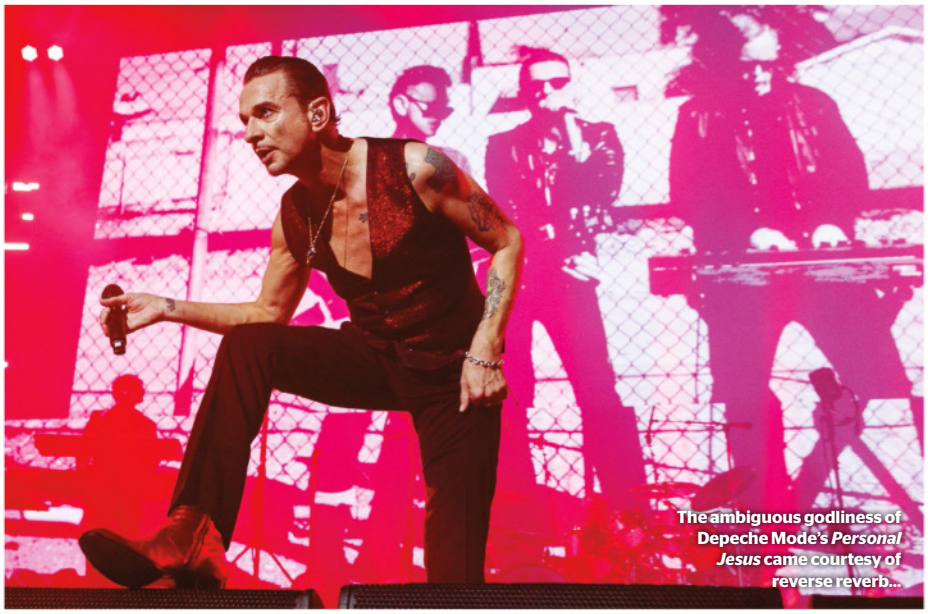
More flexible multitrack recording allowed for a more finessed approach

people also began experimenting with backwards effects including reverb, and this can be heard on the 1967 track *Ten Little Indians* by the Yardbirds. By all accounts, guitarist Jimmy Page was looking at ways to improve a pretty lacklustre song, and suggested reversing the echo on the brass. This resulted in a noticeable pre-effect which you can clearly hear at certain points in the track.

Over the following decades, more flexible multitrack recording allowed for a more finessed approach to backwards audio, and the effect simply became part of the available palette of sounds. Check out, for example, Yes's *Roundabout* (1971), Pink Floyd's *Speak To Me* and its segue into *Breathe* (1973) and Queen's *Another One Bites The Dust* (1980), all of which use backwards musical elements. Or for vocal backmasking, try the outro to Prince's *Darling Nikki* (1984) or Pink Floyd's *Empty Spaces* (1979). Every now and then the effect returns for a centre-stage appearance, such as the guitar solo in REM's *What's The Frequency, Kenneth* (1994) or the reverse lead vocal in Missy Elliott's *Work It* (2002). Meanwhile reverse reverb is now a staple effect that you'll find in all manner of genres from mainstream rock (Depeche Mode's *Personal Jesus* [1990]) to indie (My Bloody Valentine's *Loveless* album), contemporary pop (Billie Eilish's *When The Party's Over*) and numerous dance and club tracks.

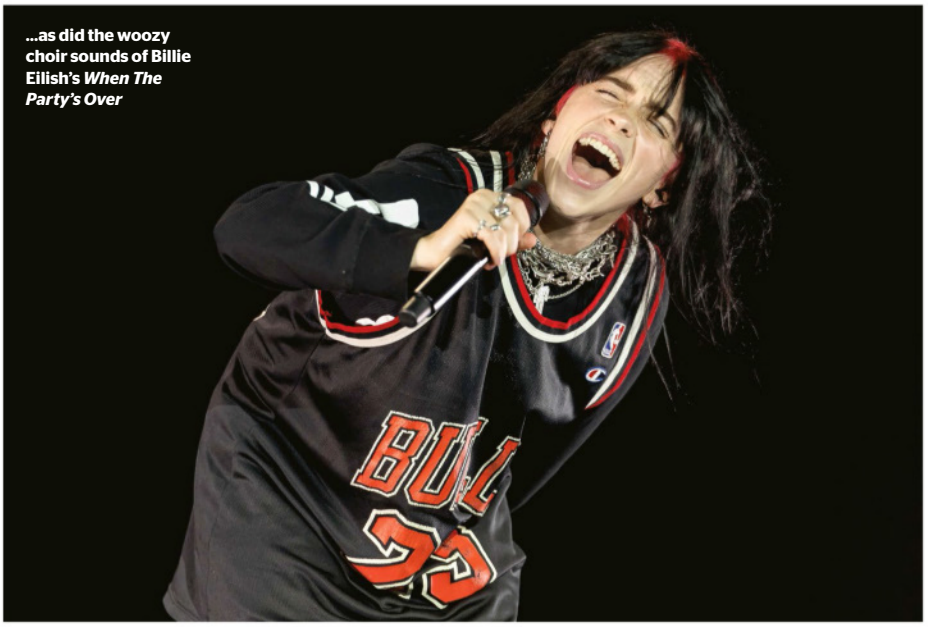
The *Revolver* B-side *Rain* saw the Fab 4 hitting reverse in all the right ways

Jeff Hochberg/Getty Images



The ambiguous godliness of Depeche Mode's *Personal Jesus* came courtesy of reverse reverb...

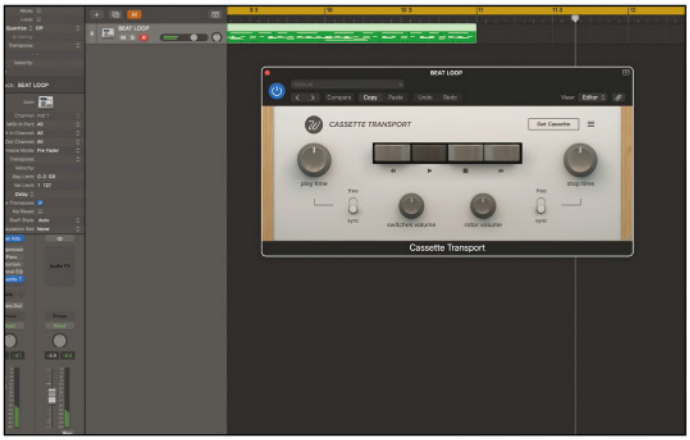
Andrew Chin/Getty Images



...as did the woozy choir sounds of Billie Eilish's *When The Party's Over*

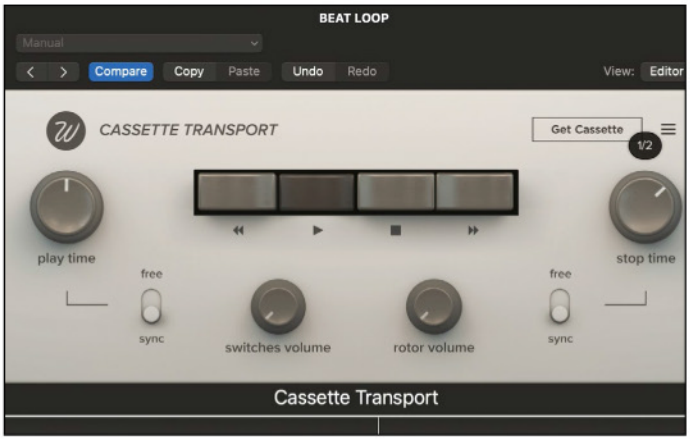
Michael Hickey/Getty Images

> Step by step 5. The start/stop effect

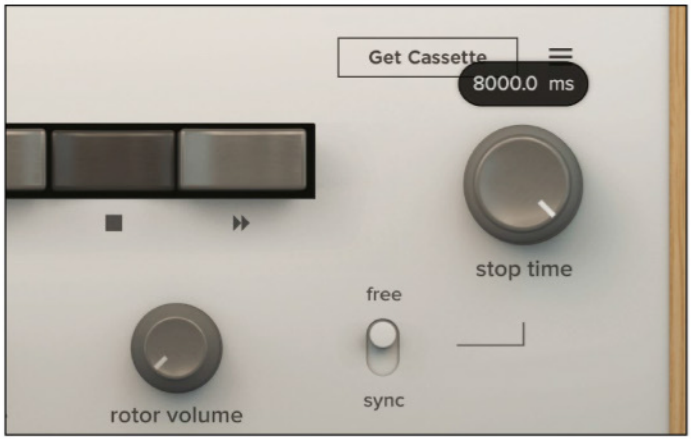


1 > This is a popular effect that was an integral byproduct of old open reel recorders. Achieving the same idiosyncratic behaviour in your DAW is best left to a purpose-built plugin. A great option and one that's completely free is Cassette Transport from Wavesfactory, which you can find here: wavesfactory.com/free-vst-plugins

2 > We've loaded up an instance across our beats just to investigate what it can do. The first thing to spot is that it includes level controls for the switches and rotor sounds that you get with a cassette deck. Unless you want either of these noises added to your audio, turn them fully counter-clockwise (off).

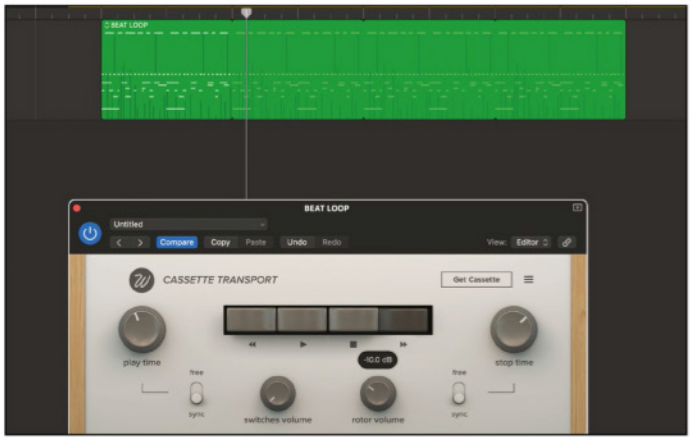


3 > The plugin loads in a default state with 'play' selected, meaning you'll continue to hear whatever is playing on the track. The start and stop effects are initiated by switching from stop to play or play to stop respectively when your DAW is in playback. The transition speed is set by the Play Time and Stop Time controls.



4 > You'll notice that the transition speeds can be tempo-synced or free time, and in free time both have a maximum transition time of eight seconds, which allows for some pretty extreme outcomes. To our ears, the effect is at its best when operating well within its timing limits.

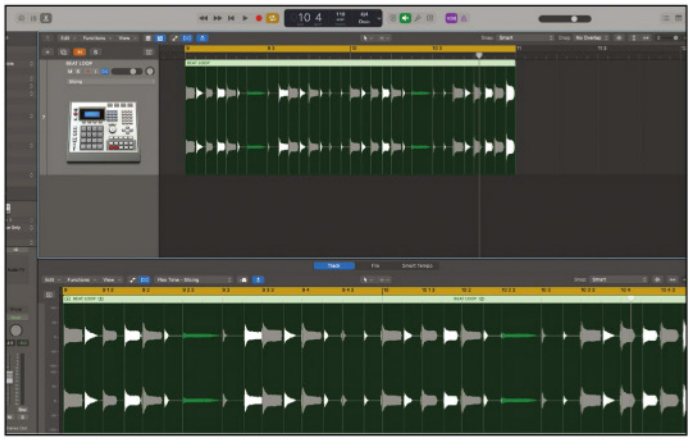
5 > Timing the transitions can be tricky, and if you plan to use the effect in real time, the best approach is simply to put in some automation for the transport (start/stop) and tweak the timing until you get the effect you want. We've done so here, with our favourite settings typically incorporating a much faster, sped-up timing.



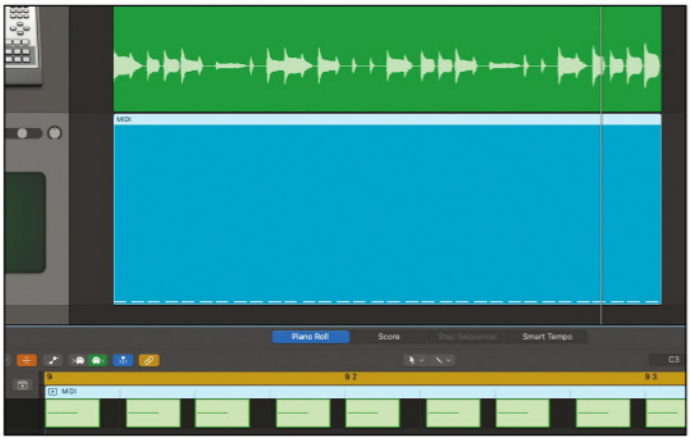
6 > Finally, you may have spotted the fast forward and rewind controls. These are part of the Rotor Volume feature and do not process your source audio. All you need to do is turn up the Rotor Volume and select either. This works without DAW playback and can be used in conjunction with the start and stop Rotor effects.

> Step by step

6. Getting hard-quantised beats to swing



1 > It's pretty easy to apply swing to MIDI data, and DAWs often use warp editing to apply groove to audio. However, if you want to do this in real time to a sub group for example, that's not so easy. This is something TimeShaper 3 can do, and we'll show you how.



2 > If we add 16th-note swing quantise to MIDI notes, you'll see it's shifting every other note later, so all of the off-beat 16ths. Similarly, if we apply eighth-note swing, it shifts all the off-beat eighth notes. Let's start by looking at 16th-note swing. We've loaded up a beat loop that includes 16th notes on the hi-hats.

3 > Insert TimeShaper 3 across the track and set the LFO length to an eighth note. This means each LFO cycle will cover two 16ths, the first one of which needs to be on the beat and the second of which needs to be swung. To achieve the swung 16th, we need to introduce a small repeat into the LFO cycle.

4 > As before, we don't want to affect pitch, so lines need to be horizontal and this is best achieved by using the line tool. To introduce a small repeat, draw a straight line for the second half of the LFO just down from the top. You'll hear that it introduces the swing effect and the lower the line is, the more swing is applied.

5 > The default Time Range setting (follow LFO) probably doesn't offer the ideal precision for this effect, and you'll find it's much easier to fine tune the swing amount by switching over to the Fine option. Here we've selected 20ms and this gives us plenty of grid space to adjust the repeat point and hence the amount of swing.

6 > If we now want to try an eighth swing, we simply need to switch the LFO length to quarter. You'll need audio that lends itself to this swing type; we've loaded up a hip-hop beat that uses eighth-note hats rather than 16ths. Once again, using a lower horizontal line for the second half of the LFO introduces the required repeat point.

Katja Ogrin/Redferns

Time-stretch trendsetters

By the '90s it might have seemed to some like all of the possibilities for subverting playback had been done... or were they?

The option to change pitch and time independently in the form of time-stretching/time compression and pitch-shifting was a game changing development for music production. Even so, early options had major limitations, including short sampling time, slow offline processing and unpredictable sonic outcomes. Still, one person's junk is another's gold, and this didn't stop cutting edge producers embracing them warts and all. Over time, processing quality improved and shifted from digital hardware to software, but this just created another wave of opportunity for the creatively inclined. Let's take a look at a few tracks that make creative use of these effects.

With *Terminator*, Goldie ensured that it wasn't end of days for time-stretching

Darron Mark / Alamy Stock Photo

Metal Heads
Terminator

Early drum & bass was renowned for its sped up loops and vocals combined with makeshift repitched keyboard samples, and this track by Metal Heads (Goldie, DJ Freebase and Markus Rutherford) is a perfect example. But it's the drum loop that interests us, in particular the sections at about **2.35** and **3.10**.

Out of nowhere, the loop changes pitch without changing tempo. Nowadays, we'd think

The H3000 Ultra Harmonizer wasn't just good for pitch-manipulation duties. You can get its classic qualities in software now, courtesy of Eventide

of this as pitch-shifting, and the way in which the pitch creeps up has all the hallmarks of the classic Eventide H3000 Ultra Harmonizer effect, which is what we understand was used. However, we've included the track as it spawned many similar sounds that used sampler time-stretch algorithms rather than pitch-shifting.

4hero
Journey From The Light EP

Electronic group 4hero started out making breakbeat and techno but soon shifted gear and became trailblazers in the newly burgeoning rave scene. At the time this 1993 EP was released, it was categorised as darkcore (a precursor to jungle and drum & bass). It's the title track that's of interest to us and the various sections that have been time-stretched. From the outset you get a grainy vocal effect that has the hallmark sound of early time-stretching and this reappears later in the track as well. But by far the most prominent bit of processing is the main beat loop. At about **1.40** and **3.40**, sequential bars are treated to three different pitch settings, creating an upward motion to the loop. The bass continues to play alongside this, but the loop is mixed loud and proud, so the ringy sound of the processed loop achieves maximum impact.

Fatboy Slim
The Rockafeller Skank

Musical magpie Norman Cook really hit his stride with his second Fatboy Slim album. Not content with pinching a hefty serving of Northern Soul classic *Sliced Tomatoes*, borrowing a Duane Eddy guitar riff and reconfiguring the vocals of rapper Lord Finesse, Norm set about building a middle section the likes of which had never been heard in mainstream music. For over a minute, the whole track goes on a time-stretch journey, gradually grinding to a halt before rejoining the main chorus for its final fling. Perfectly suited to the track and era.

Double 99
RipGroove

This classic speed garage tune from 1997 still regularly lists in all-time UK garage top tens. In keeping with the times, it's a sample-heavy affair that lifts elements from a number of tracks, layering them over a driving dub bassline and skippy beats. But it's the distinctive vocals that really mark it out, comprising a looped snippet of Tina Moore and some obscure time-stretched vocals, courtesy of reggae artist Top Cat. The latter had already been sampled for drum & bass track *Wheel Up* by DJ Gunshot and it's actually the remix of that track, *Wheel 'N' Deal*, that provides the time-stretched vocal on *RipGroove*.

Ollie Millington/Redferns via Getty Images

Sub Focus & Dimension's *Ready to Fly* was squeezed and stretched more times than your average salami

Sub Focus, Dimension
Ready To Fly

Time-stretching continues to crop up in contemporary music and producer Sub Focus is no stranger to it, having rehashed the *RipGroove* Top Cat vocal for his 2013 track *Original*. However, it's not the act of making vocals longer but making them shorter that features in this 2022 track. Starting with a demo vocal that was recorded at a much slower tempo, the vocal was time-compressed to fit the much faster 174bpm tempo. Happy that it worked, the vocal was then re-recorded properly, but to retain the sped-up effect, this was once again done at the slower tempo. The final vocal was then time-compressed and given a final tweak in Melodyne to adjust wobbly bits. On this track, and all the ones mentioned, artists' shaped time to their creative whims, and helped normalise time-based effects as intrinsic facets of modern music production.

10 time-tastic tips

01 PITCH-SHIFTING / THICKENING

Subtle pitch manipulation when blended with your original dry signal is a great way to thicken sounds. There are various plugins you can use for this, including TimeShaper 3. Load a straight-line Pitch preset, switch the LFO length to quarter note and set the Time Range to 20ms. With the wet/dry mix on 100%, adjust the slope of the LFO to get the desired pitch offset and then blend back in the original audio to taste using the wet/dry mix.

02 SUDDEN TAPE STOP

We looked at how you can use a tailored plugin to create tape speed-up and slow-down effects. From a production perspective, one of the most common usages is the sudden tape stop, which works as an excellent way to introduce a drop section or break in the track. Try sub-grouping multiple track elements and apply the effect across all of them. And if you're looking for a mainstream track example, check out *I Gotta Feeling* by the Black Eyed Peas.

03 TRANSITION EFFECTS

Although we can create all manner of transition effects using filtered noise sweeps, there are times when we just want something a bit more individual. Sometimes the transition needs to be pitched (see the reverse piano tip). If it doesn't, then a reverse noise sweep or backwards verby impact can do the trick. For a turn-key solution there are some great plugin options, such as Native Instruments' Rise & Hit, which incorporates multiple reverse audio risers.

Native Instruments' Rise & Hit's remit is tension – reverse risers are well within its wheelhouse

04 REVERSE PIANO

Sometimes we need a transition effect to actually be pitched. There are various ways we can tackle this, including simply using a synth swell. However, one of the most tried and tested solutions is the reverse piano. A single note rather than a chord usually works best and all you need to do is bounce a suitable note to audio, reverse it then line it up so the loudest part hits where you want it to.

05 BACKMASKING

This classic reverse vocal technique goes back decades and is usually used to disguise the lyrics or even sneak in a hidden message. It can be a featured effect or buried deep in the mix for someone to discover down the line, or you could simply use it to flip any expletives and deliver a broadcast friendly mix.

06 CLASSIC TIME-STRETCH

Early time-stretch algorithms gave rise to very audible and stretched effects that were often applied to vocals. Modern DAW algorithms are way more efficient and produce fewer artefacts. However, with some careful tweaking, you should still be able to achieve these effects. Choose the oldest algo available, and try re-stretching sections multiple times for maximum graininess.

Ableton Live is especially good for all things warped

07 DAW FEATURES

Although DAWs share many time manipulation features, they often have their own specific options and strengths, and it's always worth seeking these out. One of the best examples is audio warping in Ableton Live. It not only feels better integrated than other DAWs, it also has a variety of modes to stretch and re-pitch your audio in both seamless and creative ways. Logic Pro may be more of a traditional DAW, but it still has some great time-manipulation features, including the excellent slow-down effect that's built into the clip fade options.

DJ specialists Serato's Pitch 'n Time has been doing just that since its launch in 1998

For a flexible delay approach, look no further than our trusty CM Plugin Suite star, the PSP Delay

08 PITCHY DUB DELAY

A less common delay technique that adds interest and is popular for dub delays is actually pretty simple to recreate. We get used to setting and forgetting our delay times, but adjusting said times during the delay repeat can be a great route to cool effects. Once you've set your core delay time, switch off the tempo sync and adjust or automate small changes to the delay once it's repeating. If you're looking for a plugin that does this particularly well, then check out PSP cmDelay in the *CM* Plugin Suite (see p89).

09 WARP FACTOR

One of the best developments in DAW processing is warp editing and although the name varies from DAW to DAW, the concept is pretty similar. This is usually enabled on a track-by-track basis, and analyses the audio, creating transient markers. You can then manipulate the markers in order to adjust the timing. Of course, extreme settings lead to artefacts, but that might be just what you're after.

10 FLANGE

Creating a simple flanger effect can be achieved by blending two identical signals with a tiny delay applied to one. However, to create a more controllable effect, it's very useful to be able to adjust that delay, and TimeShaper 3 can do this. By using the Fine setting in the Time Range and drawing in a smooth curve, it's easy to apply the changing delay times that work with your source audio to get the sound you want. **cm**

KASBO

Birthed from an agonising stress-related hearing loss, and put together in an ABBA-owned prison-turned studio, Kasbo's third album *The Learning of Urgency* is a potent, melody-infused statement from an artist in ascendence

> As creatively rewarding as being an artist can be, it's not without its stresses. With global streams surpassing 500 million, you'd likely think that Kasbo (aka Carl Garsbo) would be content with his music reaching a worldwide audience. Yet for the Gothenburg-hailing DJ and electronic artist, the pressure of maintaining a flow of resonant yet creatively satisfying work was beginning to take a toll. "It took a while for me to decide what I wanted to be doing with my music after the pandemic hit," Carl explains. "I think electronic music was just in a really weird state, and it was evolving really quickly. I felt a bit confused on how to marry what I personally listen to and make it work in a club environment. Making it marry with the more ambient pieces that I listen to."

It was around the same time that Garsbo began suffering from a rare, stress-related hearing loss. It was a condition – which Carl still periodically experiences – that eliminated low and sub frequencies, making the all-important mixing process extra-complicated. The combination of being at a creative crossroads, and the toll of this unexpected hearing condition (not to mention the weirdness of the then-enforced Covid lockdown) set Carl off on a creative journey quite different to those that yielded his first two records – 2018's *Places We Don't Know* and 2020's *The Making of a Paracosm*. Carl takes up the album's backstory;

Photo: © Olof Grind

"I think that was the thing for me that was underpinning this record, the idea of how I can make it sound new and fresh and true to what I'm passionate about, while still keeping this essence of what my music is all about. I was able to boil down what my music has always been about, and build something new off of that. I do think it has the same core as everything – this very big, grand and dramatic feel.

"I'd say this new record is a lot faster and has more of this house backbone which hasn't really been the case for the previous record. I've always kind of dabbled with the four-on-the-floor thing, but it's always been a bit slower BPM-wise. This definitely feels like it's more clubby in a way."

Migration

In making his upcoming third album, *The Learning of Urgency*, Carl spent some time at a facility managed by Riksmixningsverket (RMV) – a former prison turned studio, owned by ABBA. "This is like an old prison that RMV bought, they changed it into a bunch of studios. They have such a wide array of synths and things like that, which gave me a ton of inspiration. Most of the record was recorded in [the converted prison-studio], which is right next door to [the main] RMV studios.

They provided hardware synths mainly, but a lot of it was just brought in from my own studio, like my Prophet and my GR-1 Granular hardware synthesiser which I've been using a lot for this. My drum machine is a Roland TR-8S which combines remakes of classic Roland drum machines. It's good for 808s and 909s."

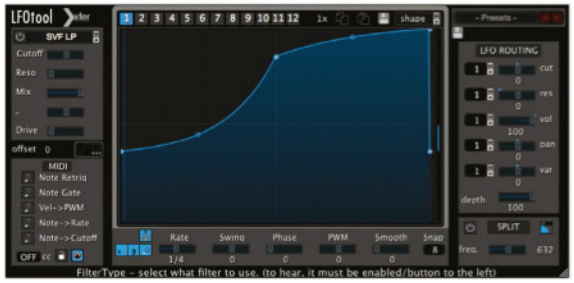
The Learning of Urgency is awash with affecting melodies, processed vocal chops and combined rhythmic effects, of particular note is the smeary quality of the vocals on the track *Drift* and the staccato vocal impacts popping away throughout the evolving *Resenären*. We wonder how Carl wrangles these dynamic effects? "A lot of it is just one plugin called Movement by Output. This is this kind of LFO tool that allows you to automate distortion, reverb and delays as well as volume all-in-one. You get some really interesting effects. I tend to use that a lot to get these kinds of ever-changing, growing effects. I also use Xfer's LFO Tool for super-simple automations like rate and shape-making. It just works well with my workflow. I tend to try and keep things as simple as possible, and not get too hung up on small details. Most people wouldn't really notice them anyway. When I start making a song, I just try and get to a good point as quickly as possible."

> "I keep things as simple as possible, and don't get too hung up on details"

But where do the vocal stems originate? "It depends, a lot of the time when I'm in a studio session, if I'm working with a singer and we're trying to write something, generally what happens is that I save guide vocals that we record for basic tracks, so I have this big bank of vocals from studio sessions, or things that people sent me in the past. Or sometimes it's just stuff I've found on the internet. I have a big folder of that, and I play around and see whatever I can do with it. I generally try to make vocals as embedded with the production as much as possible, that's easier when you just take a small sample from a big vocal that you already have in place, than writing a full-on top-line over a big production."

A big figure in Garsbo's creative universe is fellow Gothenburgian, Frida Sundemo, whose ethereal vocals have been regularly harnessed by Carl for years. "I've been working with Frida since my first record. I've always been really in love with her vocals," Carl explains. "I think she has this amazing way of communicating a feeling and a place. Not necessarily with lyrics but something to do with the way that she sings. I'm not too keen on getting super clever with lyrics and storylines. I generally am drawn to simple lyrics but where you communicate the feeling through the texture of the voice and how you sing, the tonality of it. She's really good at that. She wrote that vocal for another track that didn't end up making it. It was a great vocal though. So, that was a case where I just put it in a folder. I just started something fresh with it. I had that

Photo: © Eric Dew



Kasbo's foremost plugin picks: Output Movement, Xfer LFO Tool and u-he Diva

vocal looping and then tried different piano chords out."

Exploring new possibilities

As well as the recent changes in his creative and personal life, Carl also decided to to expand his DAW options, adding Ableton Live to his previously FL Studio-centered workflow. We wonder what prompted him to climb aboard the Ableton ship? "I've played around in Ableton Live for like two weeks now, and I've always used it for live shows. The layout, in terms of automating, and the workflow in general feels really interesting for making sounds and developing them over time in really simple ways. Automations are all grouped, whereas in FL you create an automation clip and then you spend two minutes trying to find it.

"Here in Ableton Live you can have everything just kind of gathered and I think it also encourages creativity. In FL, you have a mixer track and ten slots to use your effects. Though there is something good about that limitation, it just makes you not want to keep adding and adding. Ableton almost seems to be encouraging you to keep adding effects, or make a chain and it's all really simple and intuitive. I just wanted to see if that would develop my production in any way. I've got version 12 and have been playing around with Roar to distort in tune. It's pretty cool!"

Turning back to the album production process, we enquire about the record's disparate array of synth sounds, and where they originated. "There's a lot of u-he Diva on there. There's a lot of Slate + Ash Kontakt libraries in there, I think they have a really interesting way of just building out their synths, you can get really interesting textures and rhythms and things like that. They have a really brilliant plugin called Cycles – you can load in any audio sample and [the plugin] sequences it in a really interesting way. They figure a lot. Zebra 2 which is also u-he is used quite a bit too. It's a brilliant synth. I have a friend here in the studio who is big into the plugin world, and he recommended it to me. I've been using it so much ever since. I feel like Diva is a lot more commonly used than Zebra, I feel like it's quite overlooked."

With the mention of one of our *CM* go-to synths, we wonder whether Kasbo feels there is a world of difference between writing with software over hardware? "It depends on the record, for this one I ended up working a lot inside the box. I try and come to my studio around three days a week, but the rest of the time I'm sitting at different cafes and working on my laptop. Trying to get some different environments to be in. I also find it easier to work if somebody is around me, so I don't fall into YouTube rabbit holes! I'm held accountable by the people drinking coffee next to me. For this album it's been way more plugin-based. My last record *The Making of a Paracosm* was made in a really nice studio in Gothenburg, that had crazy instruments and gear. I would sit there until 6am recording loads of different instruments that I've never heard of. For this, it's been more limited to plugins, trying to not go on a tangent of learning new instruments."

In keeping with Carl's tangent avoidance, the mixing toolkit was largely populated by FL's in-built array of plugins: "A lot of it is FL stock on this record, for compressors I used a lot of Fruity Limiter and EQ, just the Parametric EQ. I do use some FabFilter stuff, but for me personally I'm not a massive audio buff, and I can't really tell the biggest difference between two different compressors. Most of my attention has been on drastic creative effects. FL stuff has been really great. For this record, it's the first I've really had where somebody else mastered it. We did stem mastering for this record. Previously I've done stuff by myself. It was interesting as well. There are some additional plugins I use though, I used a lot of Wavesfactory Trackspacer in this. Then just automating stuff so you create space in the mix. I try to keep things as simple as possible."

The aforementioned album highlight, *Resenären* was understandably the most confounding from a mix point of view: "That track is 7-minutes long. It has so many different types of sections. The first intro section is more

this subdued beat, which is kind of more mellow, then it goes into this more energetic thing. It's then scaled down to this ambient drop. In the last part it goes into a bit where everything culminates into one – that was very tricky to get right without sounding messy. There was a lot of Trackspacer on that, and I spent a while trying to keep the momentum and keep the energy going. You've got all these different melodies and things, and delivering it was tough – keeping the energy while stripping things back."

We wonder if the effect of his hearing loss has impacted on how Carl mixes these days? "It can be from hour-to-hour, day-to-day or week-to-week. It's interesting. It's a fairly rare hearing loss that is basically conductive low-frequency hearing loss. All sub frequencies are gone on my left ear when it's bad. Some days I'll hear pretty much perfectly from that ear. Part of the issue is that it changes the way you hear stuff as well. Some sounds sound a lot harsher in your ear, because it's sensitive. There's also a lot of dissonance happening in the ear. If I'm having a day where I can't really hear well, I can whistle and hear one pitch in my right ear and a different pitch in my left. It sounds like two different people whistling at once – terrifying!

"It's slowed me down a tad, sometimes I'll be playing bass notes, and I'll be like 'wait, is that in key?' I can't really tell because my ears hear a different pitch. On a good day, though, it's perfectly fine. But I think that's a big reason why I wanted to outsource mastering. Getting help from other people, letting them listen and tell me 'OK, this is too bottom heavy' – typically because I can't hear the subs! Having someone there who can hear those frequencies is a nice crutch to lean on."

***The Learning Of Urgency*, Kasbo's latest album fits with his penchant for the "very big, grand and dramatic"**

Entry points

Carl's initial discovery of electronic music-craft came via an unlikely remix of one of his favourite video game soundtrack scores. "It's interesting, before I started out I wasn't really a fan of electronic music. I think the associations I had with it were just the typica image of 'spraying champagne in a nightclub' and that's not really my thing. I was listening to a lot of band music and was playing a lot of music with my friends. We'd go to my friend's house where we'd have a drum kit and guitars and we'd just cover different bands. There was a very clear moment when I realised that electronic music could be cool. My friend's older brother was playing in a hardcore metal band, and was having this concert outside of Gothenburg (where I'm from) Looking back on it now it's a bit silly, but as their intro song they played the Ephixa remix of a track from *The Legend of Zelda* called *Lost Woods*. There was just something about that moment, and the crowd got into it and started moshing. I remember thinking 'wow, this is really sick'. I found the song and then got into people like Skrillex. What made that transition easier was going from things like heavy metal and hardcore to dubstep – it's fairly close. One's electronic-based and one's band-based but it was an easy entry point for me. Then I discovered the more melodic side of electronic music. That felt more in-line with what I was truly passionate about."

Flash-forward to 2024, and Kasbo's global audience is surging, with his biggest successes his remix of Big Gigantic and Angela McCluskey's *The Little Things*, the superb *Bara Du* and 2017's emotionally-charged *Found You*. With his streaming figures in the millions, we ask Carl whether he's consciously influenced by trying to predict what track elements will lend themselves to play-listing and regular listens? "I try to not be influenced. I think subconsciously you're probably always going to be affected by that, so I try to actively not do it. I generally just try to make something that excites me in the moment. I think there's something harmful about creating something that's designed and structured for people to like, I think if you're excited about it then somebody else is going to feel that as well, whereas if you're making music for somebody else, you're just guessing whether it's good or not, you need to actually believe it's good as well. I think I really tried to do what I felt inspired by. I think subconsciously for all artists, there's always an awareness of which songs you've released have done well. That influences you."

> "I need to make music that I want to make, otherwise there's not much point"

Carl goes on, "I think for a long time, there was a lot of thought on what people were expecting me to release. I was trying to guess what fans of my music liked so I figured I'd stay within that box, which is something that I tried to not necessarily submit to on this album too much. I truly just felt like I needed to do it. I'm making tracks that are fun and exciting to me. For that to be true, I need to actually make music that I want to make, otherwise there's not much point in me doing it so I tried hard to phase out everything and do what I was excited about."

With *The Learning of Urgency* set for release in June of this year, we ask where future evolutions of Kasbo's sound might go? "It's hard to say, I think you always develop in terms of your taste. I always try to do what I feel passionate about in that moment – that's when the best stuff happens. I do really feel like I've found home in this new style. I've always struggled to marry electronic music with the other music that I listen to. Combining those two styles has always been a tricky thing for me. I've been able to find that perfect balance. I listen almost exclusively right now to ambient music. I can take so much from what I hear and get inspired from it. Before, I was struggling a bit with injecting what I'm passionate about as a listener into my music, but now I can. It's probably going to stay fairly similar to this, but who knows."

The Learning of Urgency is on sale June 7th, for more info and live dates, head to kasbomusic.com

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Craft a dubstep-adjacent wobble bass with a Plugin Suite staple

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Jon Musgrave shows you how to take better control of your mixes

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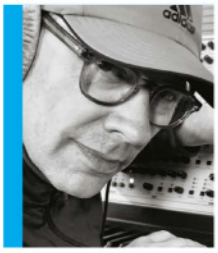
#05

Build an LFO wobble bass in BazilleCM

Patching LFO into your life doesn't have to make you feel wobbly, unless that's exactly what you're trying to achieve

Roland Schmidt



Roland Schmidt is a professional programmer, sound designer and producer, who has worked in collaboration with a number of successful production teams over the last 25 years. He can also be found delivering regular and key-note lectures on the use of hardware/software synthesisers and production, at various higher educational institutions throughout the UK

Nothing screams modulation like a good old LFO. This most basic of synthesiser components has been responsible for some exceptionally iconic sounds in the history of production. Due to the design of mid-'80s Roland synths, LFO could be manually triggered using the iconic white LFO button, which was located immediately next to the pitch wheel. This gave rise to the use of heavily modulated LFO, on bright-sounding saw pads, becoming something of a trademark. This infiltrated modern production too; just listen to the synth stabs on *Uptown Funk*, if you need evidence. But they can also be used more sparingly, to provide a degree of undulation to the pitch of a patch, as is commonplace with artists like Aphex Twin.

But what of the rise of the wobble bass? This is a sound that captured the production psyche within the dubstep genre, through its use by artists such as Skrillex. Recognisable by its compressed, brightly garish sound, we'll create something slightly more subdued to place in our own track. The process of applying LFO to a filter is the same, whether you want to crank the modulation or keep things more under control, so this tutorial should serve you well for a number of production scenarios. Grab your BazilleCM and turn up the wobble factor!

u-he
BazilleCM

A gem of our CM Plugin Suite, u-he's BazilleCM is our unique version of the company's patchable modular synthesiser, sequencer and mapping generator. It's a beast. **AU/VST 32-/64-bit**

> Step by step

Build an LFO wobble bass in BazilleCM

1 > Let's start things off by initialising a patch in BazilleCM. Open up your DAW and load up the plugin. Once the plugin window is open, move to the central display at the top of the window, click to reveal the drop-down menu, and select 'init' from the bottom. This will initialise the patch.

2 > As part of the initialisation, you'll also hear the FX Delay active in the signal. To make our adjustments clearer at this stage, go to the Delay section (bottom-right) and move the switch to the 'off' position. You can always switch it on again later, if so desired.

3 > We'll begin with Osc 1. To create our starting tone, adjust the PD pot to a value of 25; don't forget to keep an eye on the display at the top of the plugin window, for an accurate numerical value. We will also want to change the secondary waveform from the drop-down menu, to 2Pulse.

4 > We want to create a sound which feels digital in make-up, which we can do by applying envelope modulation in the direction of phase distortion. Patch the output from Envelope 2 to the PD modulation pot of Osc 1. Once connected, set the value of the pot to 62.

5 > Currently Osc 1 is not outputting via the filter, so we need to place this in line. Disconnect the cable which is currently connected to Out 1, and reconnect it to the input of the filter section. Then, take the output from LP6 on the filter, and reconnect it to Out 1.

6 > Moving across to Osc 2, adjust the PD pot to a value of 52. We also want to mix up the source tone by setting the primary waveform to a square, and the secondary waveform to 2Pulse. We will shortly blend this with the primary oscillator, adding a further digital-sounding element to the mix.

Download the accompanying video and the MIDI/audio files at **bit.ly/cm335downloads**

> Step by step

Build an LFO wobble bass in BazilleCM *(continued)*

7 > We are going to use Osc 2 to create a harmonic overtone, an octave and a fifth above our primary oscillator. Adjust the tuning pot to a value of 19 semitones. We also want to reduce the Volume pot to a value of 25, while also patching Osc 2 into the secondary input of the filter section.

8 > Next we move to the LFO 1 section, which is going to provide a wobble. Below the Rate pot, select 1/8 trip from the drop-down menu. Once selected, centre the rate pot to the 12 o'clock position. Now, adjust the Delay pot by setting it to a value of 48. This will delay the onset of the LFO, providing the classic dubstep sound.

9 > Selecting the LFO waveform requires a patch cable from the appropriate output. We are going to use a triangle wave, to supply our modulation. Drag a virtual patch cable, from the triangle wave output to the first filter cutoff modulation pot. Once connected, adjust the modulation pot to a value of 40.

10 > Head back to Env 2, and drag a second patch cable from the output to the second filter cutoff modulation pot, before setting the pot to a value of 130. We can also now adjust the overall filter settings; set the Cutoff pot to a value of 45, and the Resonance pot to a value of 17.

11 > Staying within the Env 2 section, flick the switch labelled Snappy to the On position, which will increase the speed of the envelope phases. We can now adjust the envelope faders to suit; try setting Attack to 0, Delay to 34, Sustain to 0 and finally Release to 17.

12 > Finally, you may prefer to adjust the ADSR settings of Env 1. We've purposely left them at default positions, as we feel that the generated sustain suits our purpose. You can certainly experiment with decay and sustain elements to create a snappier sound. Env 1 is already modulating output volume, so no need for a patch cable.

PRO TIP

Compress to impress

One of the trademark traits of the dubstep wobble bass sound is its unapologetic sharpness of tone, which suggests a very digital waveform upfront. In our example, we've created a halfway house between a harsh sound and something that could be regarded as softer and possibly more analogue. To create a harsher tone, try experimenting with the Phase Distortion (PD) elements of the oscillator to induce a more metallic feel. You may also want to consider raising the cutoff pot amount in the filter section, to increase brightness. Regardless of where you might direct your production, there are two other elements, which should be regarded as indispensable for this form of sound. Firstly, applying overdrive or distortion to the synth plugin will undoubtedly benefit the overall sound. Try using a distortion plugin that sounds bright; despite the sense of analogue that we often consider part of distortion, the brightness will have the opposite effect in the mix, producing a sharper tone. You should also heavily compress this sound, with many dubstep examples being very high in the mix of a track. As with all great sounds, experiment with settings and use your ears, rather than your eyes.

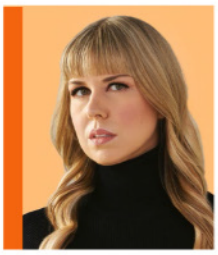
Recommended listening

Objekt
Cactus
Wobble bass provides the complete backbone for this track, alongside beats. You can hear varying modulation amounts, as the track progresses

La Roux
Colourless Colour
In a far more subdued example, this wobble bass creeps in from the outset of the song

Download the accompanying video and the MIDI/audio files at **bit.ly/cm335downloads**

Sara Simms



Sara Simms is an acclaimed DJ and producer from Toronto who's played some of the world's most prestigious venues and festivals alongside artists like Carl Craig, Victor Ruiz and more. She owns her own record label, Simmetry Sounds which releases cutting-edge techno and house tracks crafted by the next generation of electronic music producers

Mid-side EQing techniques

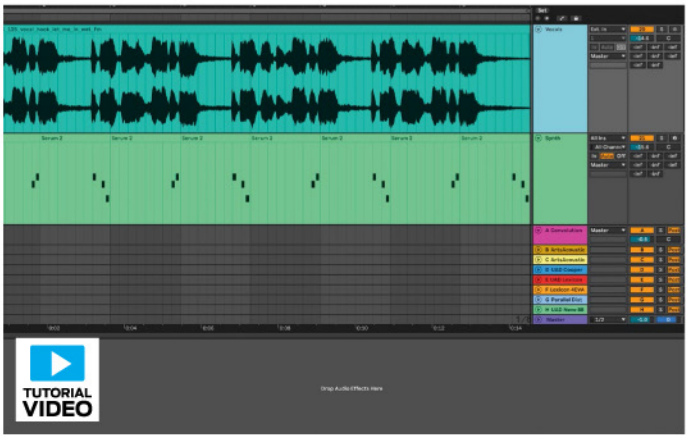
Enhance the stereo imaging on your dance music project and hear it shine!

The well-known practice of individually applying EQ to the mid and side channels is called mid-side EQing. EQs that use the mid-side (M/S) mode convert a stereo sound into mono and stereo channels. The mid (mono) signal contains the information that's the same in the left and right channels. The side signal contains audio information; that is, the difference between the left and right channels on a stereo track. Mid-side processing gives producers the ability to sculpt mixes far beyond conventional stereo processing.

Once the audio is converted into M/S, the mid information can be processed independently from the side information, then the audio is converted back into stereo left and right channels. In dance music production, mid-side EQing can be used to create remarkable stereo imaging results. This month, we'll explore how mid-side EQing can enhance your mixing. For best results, you'll want to reference your mix using speakers that are positioned correctly in a studio environment, and/or a pair of good quality headphones.

> Step by step

1. Mixing elements using mid-side EQing



1 > Begin with a mix that has several elements in the same frequency range; maybe a synth or a vocal, or a vocal and arp. Masking will generally occur on these tracks as they occupy the same frequency spectrum. Rather than panning these elements, use mid-side EQing to make the vocal the main element in the middle of the mix.

2 > On the vocal track, add an EQ that offers mid-side mode, for example FabFilter Pro-Q 3, iZotope Ozone 11, sonible smart:EQ 4 or Ableton's EQ Eight. Add a bell EQ and find the main frequency that you want to emphasise in the vocals. Select mid mode (often found in the stereo placement section) and boost this frequency. Only the mid frequencies are boosted.

3 > On the synth track, add an EQ with mid-side mode. Add a bell EQ and select the same frequency used for the vocal EQ. On the EQ, select mid and cut the frequency, so the second track is EQed in the opposite way from the vocal track. This creates space for the vocal by creating a dip in the mid information on the synth track.

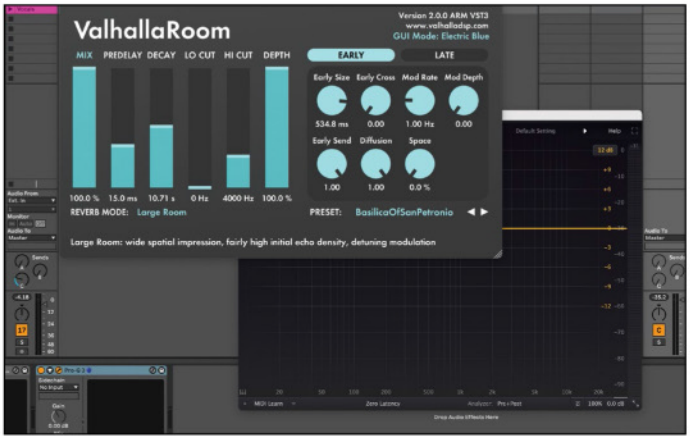
4 > Add a hi-hat track to the mix and use mid-side EQing to create a wider sound. Add FabFilter Pro-Q 3 (or another EQ with mid-side mode) and add a high-shelf EQ between 8000–10,000 Hz. Select side mode and make the EQ dynamic to add movement. This EQ boosts the side information in the hi-hats to create extra top-end shimmer.

5 > Add in an additional hi-hat track to your mix. Add your mid-side EQ, and select a bell or shelf EQ in side mode. Use the EQ to carve out frequencies that have been enhanced by other EQs and create space for each hi-hat. If you boosted your first hi-hat at 8000 Hz, use an EQ in side mode and make a cut at 8000 Hz.

6 > Electronic basslines can have wider high frequencies and a centred low. Use mid-side EQing to keep a tight low mono frequency and wider highs. Add an EQ, a low-cut filter, and select side mode. Cut from 80-300 Hz. This makes the bass mono below your chosen frequency, while keeping the stereo image in the top end.

> Step by step

2. Add wide space to a vocal track with reverb and mid-side EQ

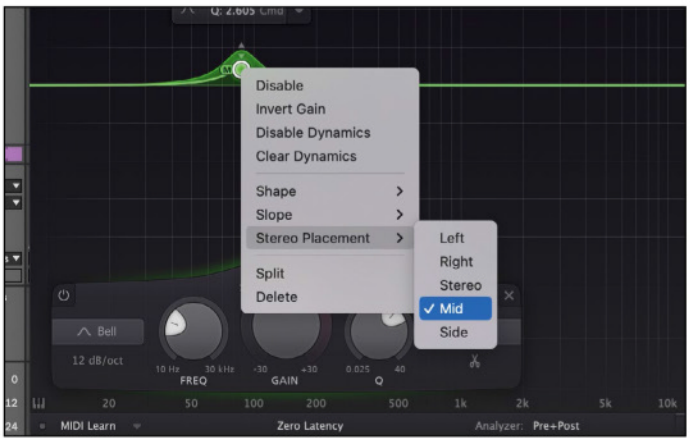


1 > Start with a vocal track. Create a return track, and add a reverb with a long decay to the return track. Send the vocal to the return track. Next use mid-side EQing to add wide space and air to the high end of the frequency spectrum on the reverb. On a return track, add an EQ with mid-side mode after the reverb.

2 > On the EQ, add a shelf EQ and set it to side mode. Create a boost at 3 kHz, or somewhere close to this area. Create a second EQ node, and select shelf EQ. Create a cut at 3 kHz (or the frequency you selected) and set it to mid mode. Listen to the vocal track and you'll hear width and air has been added.

3 > A second way to achieve a wider reverb sound is to scoop some of the mid-range frequencies from the mid channel on your reverb return. Try this technique by first flattening your previous EQ settings, and creating a bell EQ between 2-4 kHz. Set it to mid mode, use a wide Q and dip the frequency by 1-3 dB.

4 > Add a drum loop to the mix and add a mid-side EQ to the drums. Make room for the vocals in the mix by selecting a bell EQ, setting it to 300 Hz and setting it to mid mode. Make a cut at around 300 Hz by about 3 dB. This technique makes room for the vocals to be added on top.



5 > Boost the low end of the drums by adding a mid-side EQ. Create a bell EQ and set it to mid mode. Make a boost for the kick drum in the key of your track. Use a notes to frequency chart to find the correct frequency. For example, if your key is F, make a boost at 87.3071 Hz for the kick.

6 > Add brilliance to the drum loop by adding a boost in the side information in the high-mid frequencies. Using the mid-side EQ, select a shelf EQ and set it to side mode. Boost the high-mid frequencies at around 4 kHz. Find the exact frequency for your drums between 2-6 kHz. This should give your high end some sparkle.

PRO TIP

MISTAKES TO AVOID IN MID-SIDE EQING

Third-party EQs like sonible smart:EQ offer useful visual assistance

Producers, mixing and mastering engineers are naturally drawn to mid-side as it offers precise control over your audio. Mid-side EQ techniques offer flexibility for balancing elements in a mix, and can help widen sounds. However, using incorrectly can damage your mix. A simple mistake is not truly understanding what mid-side processing is. The mid is made up of the left and right channels added together. The sides are a mono signal, consisting of all of the information from the left side minus that from the right. The mid and side are not perfectly separated, which is one reason why mid-side EQ can lead to issues in a mix. Overuse of mid-side EQing can create phasing issues between your tracks. Another common mistake is boosting the side information too much. Attentive listening and making intentional EQ decisions can help avoid problems. It can be tempting to use mid-side EQ at the start of the mix, before panning. A better route is to start by making careful decisions about the placement of each element in the stereo field before using mid-side EQ. On the flip side, many producers reach for stereo widening tools, where mid-side EQ would work well.

OTHER RECOMMENDED PLUGINS

FabFilter
Pro-Q 3
One of the best EQ's on the market that offers per-band mid-side or left-right processing

iZotope
Ozone 11
Ozone 11 features an easy-to-use interface, and allows producers to shape their stereo image with Mid-Side mode

#4

Make a track in the style of Pet Shop Boys

The Pet Shop Boys have just released a new album, *Nonetheless*, so it's a great time to show you how to create some of their signature sounds for free

Andy Jones

Andy has been writing about music production, studio gear and technology for over 30 years, having edited magazines including *Future Music*, *MusicTech* and (twice!) *Computer Music*. He says we can look forward to several 'How to sound like Gary Numan' features in the course of this series...

Neil Tennant and Chris Lowe from the Pet Shop Boys are currently celebrating four decades of having produced their unique brand of electronic pop. To mark the occasion, they've brought out a new album, *Nonetheless*, so it's time to look at what makes their music tick.

The duo started writing music together in 1981, and began a long list of chart hits with their debut album, *Please*, in 1986 and the huge hit singles *West End Girls*, *Suburbia* and *Love Comes Quickly*. They then enjoyed number one after number one during their so-called 'imperial phase', with tracks including *It's a Sin* and *What Have I Done to Deserve This?* featuring Dusty Springfield.

More 'single word' titled albums were released in the '90s, '00s and 2010s with hits like *Being Boring* – written about a friend of Tennant's who died of AIDS – giving the duo a great rep for tackling heartfelt subjects with often uplifting melodies.

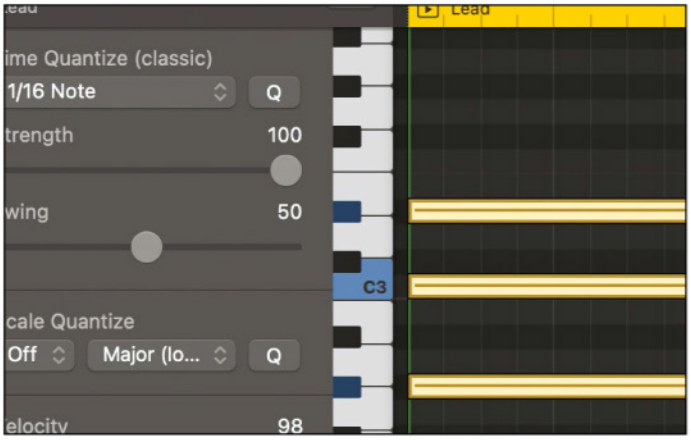
In this tutorial, we're crossing PSB eras to create parts for a tune using just one synth, Our go-to, ZebraCM. We'll first look at a Pet Shop Boys classic chord sequence that Neil once described as being a surefire formula for creating a hit, and then we'll layer in some basslines in a style from more recent tracks like the recent single *Loneliness*.

So if you've asked 'If, when, why, what?' about PSB music, here are your answers!

> Step by step

1. Create a track in the style of Pet Shop Boys with one free synth

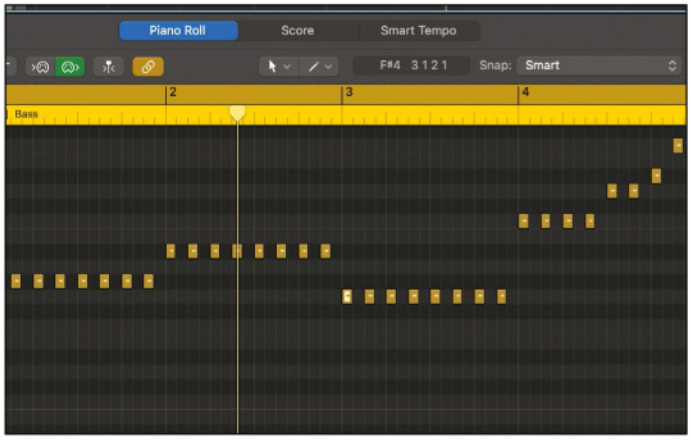
1 > We'll go for a chord progression with a pad sound. This tutorial is more about the notes and progressions than synth sounds, so we only need to approximate the sounds. ZebraCM has just the preset we need in the form of Choir of Apathy. Load it up!



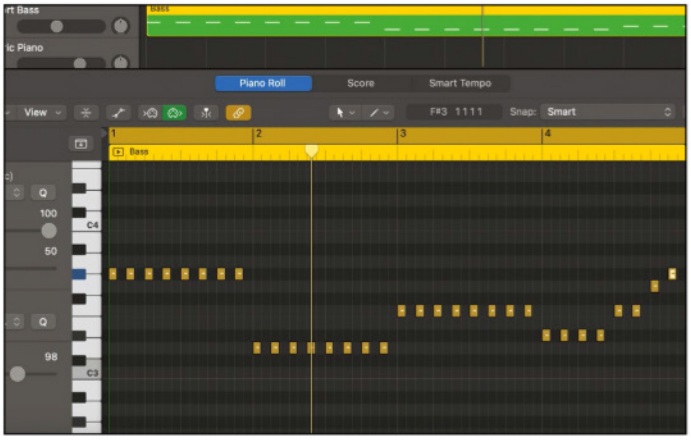
2 > Neil once told Q magazine that, "if you ever want to write a classic pop song, use these chords: A♭, B♭, G minor 7th, C minor. That's 'The Chord Change'. You can't go wrong with that. A guaranteed worldwide hit". Let's give it a go. The first is as shown above and achieved by playing the notes A♭, C and E♭.

3 > Play a B♭ chord with the notes B♭, D, and F; a G minor 7th with G, B♭, D and F; and finally a C minor chord with C, E♭ and G. You'll notice this is similar to the progression used in *Being Boring* and many other pop hits. *Never Gonna Give You Up* by Rick Astley, for example, might use a slight variation.

4 > Now we're going to add at least one bass part. PSB basslines can be very simple, usually following an eight-note division per bar that can be created with an arpeggio or drawn in. We've chosen ZebraCM's Nice But Simple bass for our bass sound.



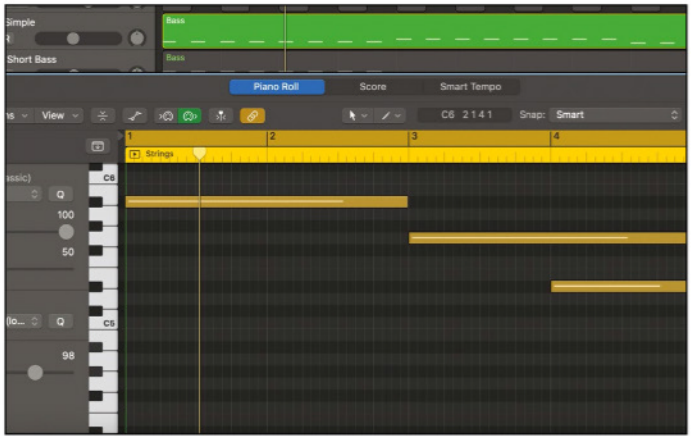
5 > Ours is a simple bassline that follows notes in the chord progression, but nicks a similar rise at the end as used in the track *Loneliness* from the Boys' latest album.



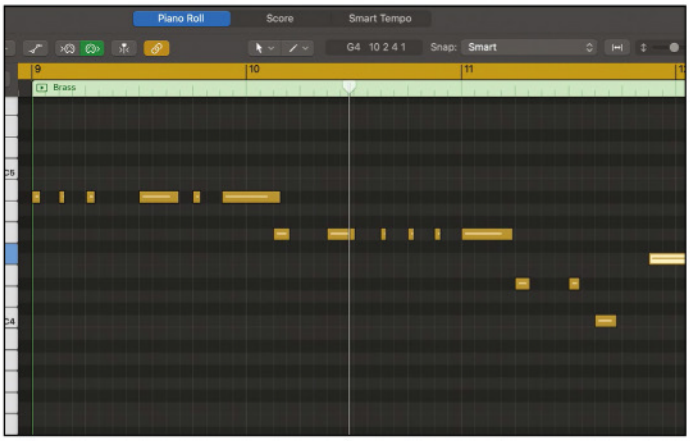
6 > We've also added a second bassline – not always necessary but good for variation. It has notes that often counter the first one's (so move down where it goes up and so on) and can play at the same time as the first or independently. This uses the Standard Short Bass preset.

> Step by step 1. Create a track in the style of Pet Shop Boys with one free synth (continued)

7 > You can use delays with the bassline – in fact the first is already set up with one that works well, as shown above – but if you use more than one bassline, make sure they don't start clashing.

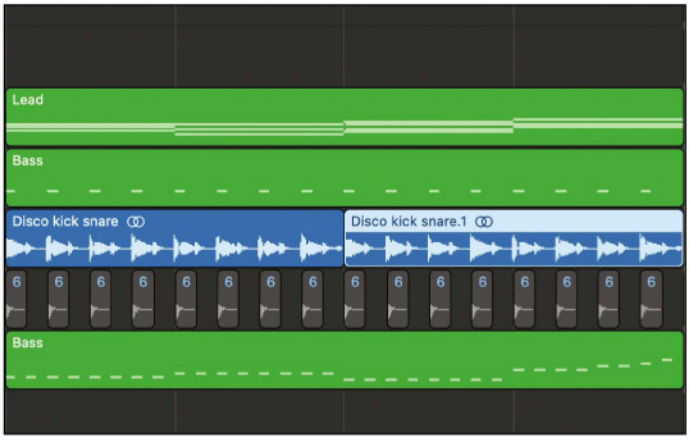


8 > The main chord sequence is a little mid-range for our liking so you might like to adjust the preset's filter or add some high strings, something PSB do a lot in their mixes. We've kept it really simple and subtle with ours, though. We've used the Stringer Zebra CM preset.

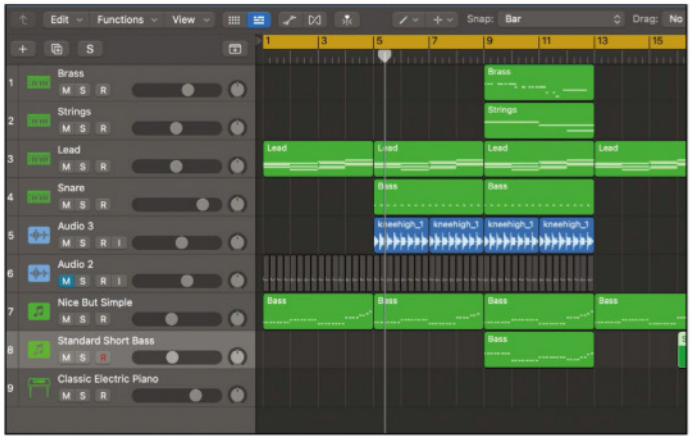


9 > PSB also like a few brass stabs, probably with real brass players rather than the often pale imitations you get on synths. Mind you, ZebraCM makes a pretty good stab at it (see what we did there) with the Hornographic preset with which we recorded a melody over the top of the track. It can be overpowering, so use it sparingly.

10 > You can use ZebraCM's presets for your kick and snare too. PSB like to use the good old four-four kick so load up a preset like Clicky Click and process it to give it some welly, or...



11 > ... decide for yourself that life is too short, and load in a disco beat or kick snare loop as we have. Any good thumping loop will do. Add some percussion top-end variation, if you wish.



12 > Then arrange to taste. We've only looped it a few times to show off various combinations of tracks over 30 seconds but you can go as far as you like. If you take nothing else away from this, just remember that chord progression, or variations of it. Hit records here we come!

PRO TIP

USE WHAT YOU CAN

For our brass stabs we used a synth, stating that Pet Shop Boys would probably use the real thing for their tracks. But while they might well have the cash to pay 'real' musicians, they haven't always made use of them. For *A Red Letter Day*, from sixth studio album *Bilingual*, they went all the way to Russia to record a choir to give it a more authentic feel... only to apparently end up predominantly using a choir sample CD. Another track from the same album had some even more surprising ingredients: random notes. While we used a very specific chord set in our track, for *It Always Comes as a Surprise*, Chris Lowe just tried to play as many random notes as he could for one chord. Loving the idea, Neil then rewrote the song chords so they fitted with this chord. Two final unexpected PSB sources came by way of their breakthrough hit *West End Girls*. The fantastic trumpet solo at the end is actually a sample, played meticulously on a very early Emulator sampler. And the traffic noise at the start? That includes a bunch of Wham! fans who were waiting for the band to turn up outside the PSB studio. So our last tip to help recreate a PSB track? Use whatever the hell you can find!

With 40 years under the belt, Tennant and Lowe's formula has worked its magic

Suzan Moore / Alamy Stock Photo

RECOMMENDED WATCHING

PET SHOP BOYS *BEING BORING*
Neil claims the same chord progression we discuss here was used on *Being Boring*, *King's Cross* and in the chorus of *Domino Dancing*, though we reckon there are slight variations on a theme for each.
bit.ly/cm_psb_bb

RICK ASTLEY *NEVER GONNA GIVE YOU UP*
Tennant has claimed in interview that "The Chord Change" of *Being Boring* is also found in this Stock, Aitken and Waterman classic. Either way: it clearly works!
bit.ly/cm_nevergon

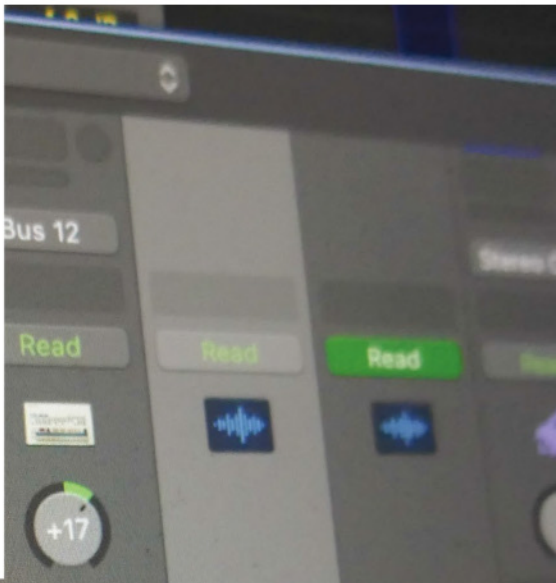
Download the accompanying video and the MIDI/audio files at **bit.ly/cm335downloads**

Working with VCA groups

This clever feature can be indispensable when you're mixing, and a great companion to submixing

Jon Musgrave

Jon is a London-based platinum award winning mixer, producer, composer and club remixer with a diverse CV that spans dance, pop, rock and music for media. He's also a long term contributor to *Computer Music*. Jon usually handles final mixdowns, which is why we've got him to share some of his pearls of mixing wisdom here



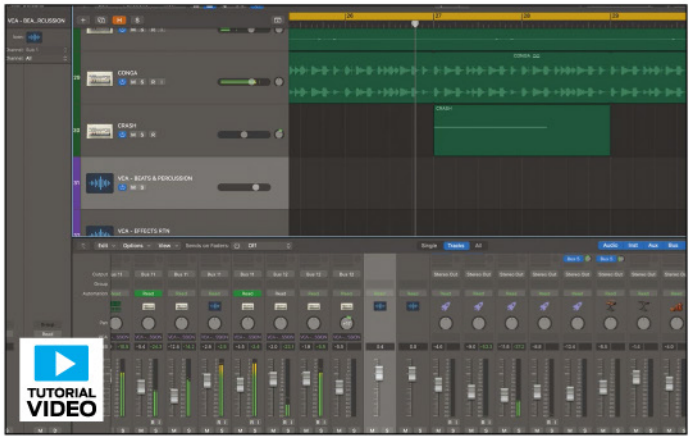
VCA grouping is a powerful feature that can be just what you need when you're mixing, but what are its benefits and how do we use it? That's what we'll be tackling in this masterclass today.

We usually associate VCAs with synths, where the voltage-controlled amplifier/attenuator (VCA) is a key component of the output stage. So how did this name end up being used for a grouping tool? For that we need to go back to analogue mixing desks and more specifically, desks that included fader level automation. By incorporating a VCA into the channel output stage it became possible to have a controlled and thus automated fader level, albeit one where the fader didn't move. Desk designers then added VCA group faders, and by the flick of a switch you could then control the level, mute and solo of multiple faders.

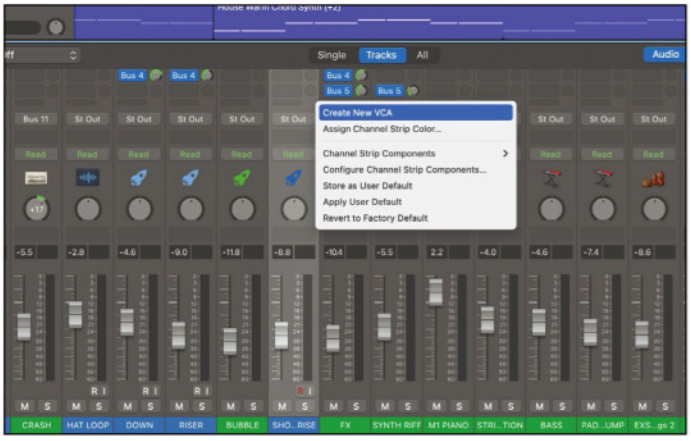
This all sounds pretty close to the concept of submixing, which we looked at in Masterclass #17, but the difference here is that the VCA groups are simply controllers rather than group channels with no audio going through them. In practice this makes them very useful for certain types of mixing tasks. In this tutorial we'll show you how you set them up, general usage aspects and the specific tasks they make possible.

> Step by step

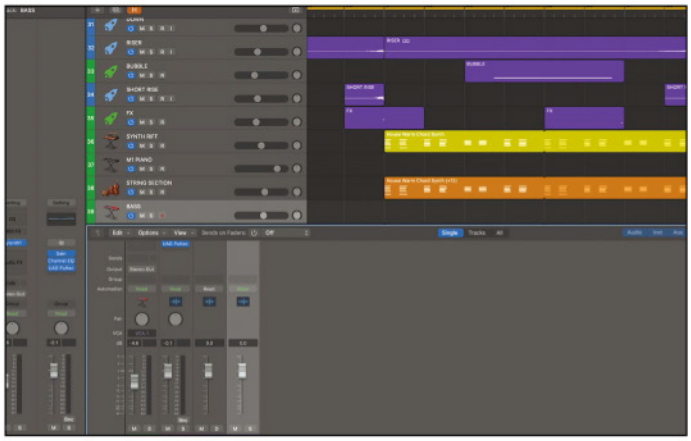
Using VCA groups



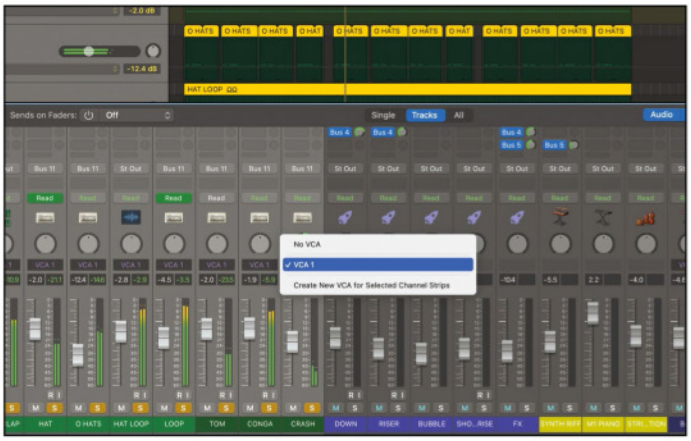
1 > VCA grouping is a handy option that becomes increasingly useful as your mix progresses and you need to make finer adjustments without compromising what you already have. It complements rather than replaces submixing but it's not available in all DAWs: check out the Pro Tip for some alternative approaches.



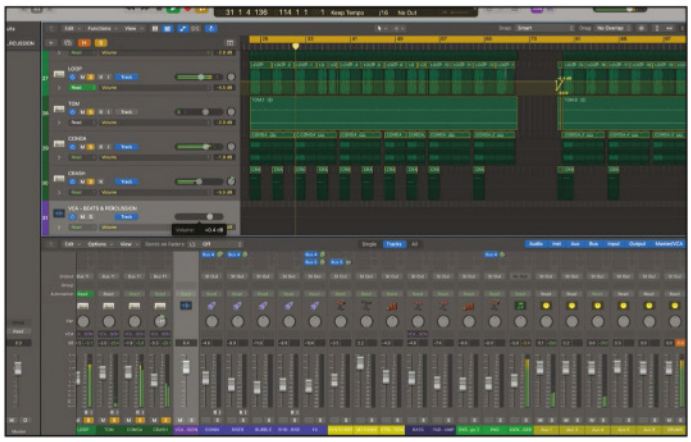
2 > The implementation, naming and features of VCA grouping vary from DAW to DAW. That said, the underlying setup process is consistent. To get started, you need to create a VCA master or group track. This acts as a controller for any assigned tracks, and will most likely have a fader but no regular insert slots.



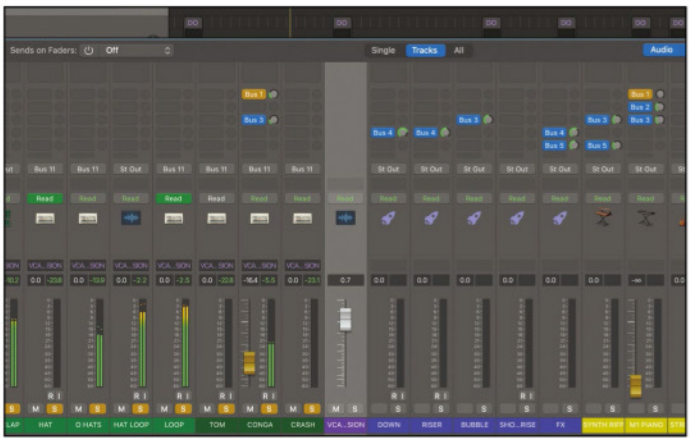
3 > Here in Logic Pro, creating the VCA group not only adds the fader to the mixer but also reveals the VCA allocation slot if it was hidden, and this appears below each track pan. Meanwhile, in addition to the level, you'll see the VCA group channel includes mute and solo, and it's automation-capable, which is very handy.



4 > As an example, above, we have multiple individual tracks making up the drums and percussion, and we need overall control of them to finesse our mix balance. We've introduced track-specific automation where needed. By adding a VCA group and assigning all our drum and perc tracks, we can adjust all component levels collectively.

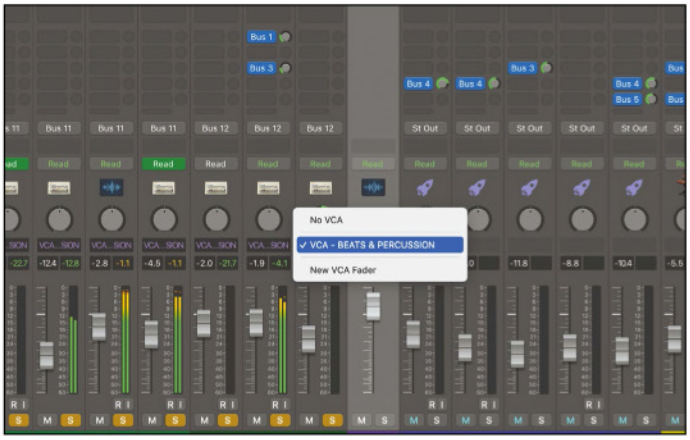


5 > Significantly, the VCA does not defeat the existing track-specific automation, so this continues on a track-by-track basis. Also, in Logic Pro moving the VCA group fader doesn't actually move the assigned faders, which is confusing. Overall it's probably easiest to think of the VCA fader applying a gain offset to all assigned faders.



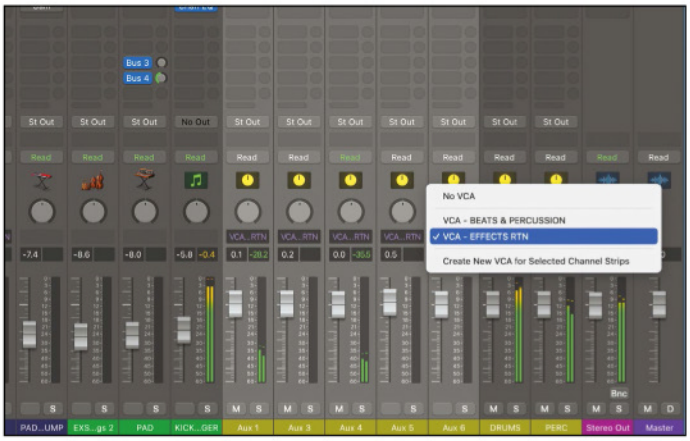
6 > Now, consider auxiliary sends. We normally set these so they're 'post fader' and as we adjust the fader level, the associated send level gets adjusted accordingly. Using a VCA group to adjust levels lets us retain this behaviour. In contrast, adjusting a bussed submix doesn't do this, and auxiliary sends may need manual adjustment.

> Step by step Using VCA groups *(continued)*



7 > Returning to our drum and perc tracks, you'll see we've already created a submix for the main beat aspects (kick, snare, clap, and hats) and a submix for the remaining percussion. One further benefit of using a VCA group is that it can collectively control a bunch of faders that are routed to different submixes. That's what we're doing here.

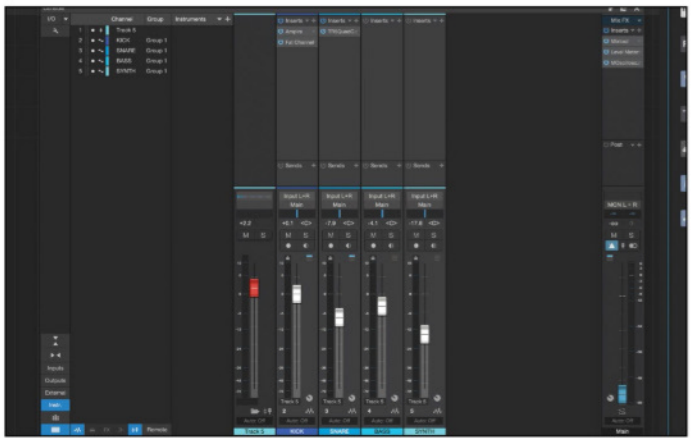
8 > Sticking with the submix topic, if we're using a level-dependent processor (compressor for example) on our submix(es), then adjusting fader levels routed to that submix will influence that processor. Here, we can use our VCA group level to easily push the compressors on both of our beats and perc submixes via one fader.



9 > VCA-level control of multiple faders is ideal for overall rebalancing of your mix and avoids compromising existing components such as automation and auxiliaries. In the case of the latter it's also ideal for collective control of returns and here we've created a VCA group for all our auxiliary return channels.

10 > Your DAW may include some further VCA-related features. In Cubase, you get well implemented VCA options that use its link group system. The easiest way to create a new VCA fader is to select the tracks you want to control, select the Link option at the top of the MixConsole and choose Use VCA Fader in the settings panel.

11 > In addition to the parameters you'd typically expect for a VCA such as volume, mute and solo, Cubase's link group system also includes multiple other options such as EQ, sends, and routing. This provides quite powerful linked behaviour across multiple channels to complement your VCA group.

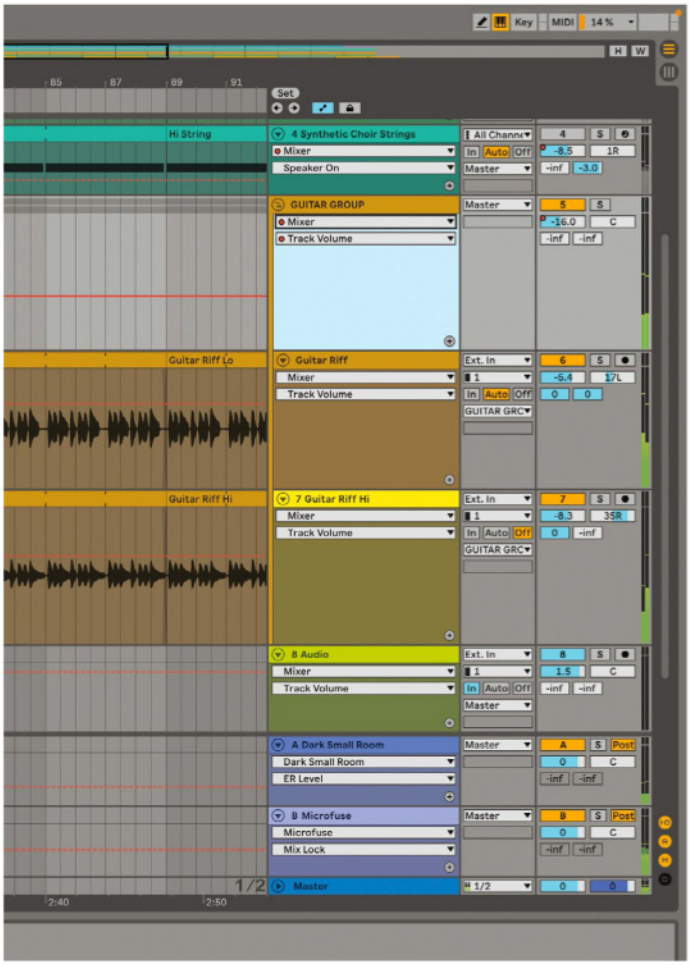


12 > In Studio One the VCA implementation is pretty much as expected and not particularly complex. However, it does include a handy option for folder tracks whereby you can add a VCA channel for a folder. This automatically assigns the component tracks to a VCA and also includes a tied show/hide option for the mixer Console.

PRO TIPS

ALTERNATIVES

Although most DAWs now include dedicated VCA faders or groups, there are some exceptions, most notably Ableton Live. That said, most DAWs include other ways to group and control your tracks, and often these will achieve similar functionality. For example, folder tracks are a pretty common option that give a quick way to combine multiple tracks and apply an overall level change. Equally, more traditional group settings can link multiple tracks. If you just want to make a single change to the level of multiple tracks, simply selecting them all and moving one fader does the trick. As discussed in the main tutorial, things can get tricky if you have existing automation. In Ableton Live, there's a simple grouping system that creates a Group track for a bunch of selected tracks. It may not be as focused as a dedicated VCA option, but it will let you adjust the level of multiple tracks, even with automation. It also controls the individual track post-fader levels rather than simply submix the signals, so track auxiliary send levels are also adjusted in line with the main Group fader level.



Ableton Live's Group functionality is an example of a similar process at work

Managing the elements of mixes like those of Deadmau5 is definitely not a whimsical matter

Barry Brecheisen/Getty Images

RECOMMENDED LISTENING

DEADMAU5
RAISE YOUR WEAPON (MADEON REMIX)
VCAs can really help when you're balancing dense, compressed mixes like this.
bit.ly/cm_vca_dm

CHASE & STATUS, BOU
BADDADAN (FEATURING IRAH, FLOWDAN, TRIGGA & TAKURA)
To keep things clear and punchy like this track, use VCAs to control selected elements of your mix.
bit.ly/cm_vca_cs

PEEL

Forging a close bond as two-thirds of international superstars, Foster the People, Sean Cimino and Isom Innis have embarked on a parallel life as Peel. Taking in influences both new and old, the pair's debut LP *Acid Star* showcases the breadth of their unfettered sonic ambitions...

> For most artists on the cusp of the release of their debut LP, a simultaneous learning experience takes place, as the mechanics of the industry are absorbed. The promotional responsibilities are often a surprise to artists who've spent the previous few years toiling away in solitude. Not so for Sean Cimino and Isom Innis, names recognisable to fans of Foster the People – an act that, since 2010's viral mega-hit *Pumped Up Kicks*, have become a household name. For Cimino and Innis – who joined frontman Mark Foster initially as touring members back in 2010 – being plugged into the universe of promotional responsibilities is something they're all too aware of.

However, the pair's new side-venture finds the multi-instrumentalists exploring altogether more sonically diverse terrain, with their inaugural LP *Acid Star*, the duo – in the guise of Peel – juggle their gift for melody with alluring beats and lush synth ornamentation. We ask the pair where *Acid Star*'s ten tracks originated? "I think it first began late 2020, actually," Sean tells us. "Isom and I were both in different places during that time. I was in Northern California, and Isom was in Austin. We had an EP called *Rom-Com* that came out during that time, but we were still feeling creative. I'd be writing where I was at, and Isom would be writing where he was at. We'd send each other stuff back and forth. In December 2020 we both met up in California, and went to my brother Nathan's studio in Costa Mesa. We had a three-day session and came up with the foundational groundwork of the tracks that made up the album. All these grooves and melodic ideas. It stemmed from there."

Isom continues: "In those first three days, I feel like we opened up a channel. A lot of ideas

Peel have a balanced love of hardware and software synths, namely Arturia's Mini V and Prophet-5 V

flowed through. At that time, we didn't know that we were working on an album, we were just doing it for fun and experimenting around. We left the studio with a bunch of different ideas. At that stage, a lot of it was built from drums and drum machines. We have a process of working, where we'll improvise together where Sean is playing a drum machine, and I'm playing live drums – we'll let those takes run for sometimes three minutes, but we just kind of improvise and move on to the next thing. By the time we left we had all these different rhythmic tracks. Then, the next process was listening back, and deciding which pieces we wanted to work on."

At this stage, the two men were guided by the spirit of fun, with around 70% of the music being rhythmic in nature. Album tracks such as *OMG* and *Y2J* were quickly birthed in that period. "The song *Manic World* was pretty much finished later that day. A lot came out of those three days," says Sean. "It was wild."

The acid test

Amongst the vivid colours on the record, lay the ethereal synth clouds that shadow *Manic World* and *Pavement*'s bubbling arpeggios, not to mention a fierce synth bass that rears its head throughout the record. We wonder if a lot of this was virtual and how much was hardware? "Both!" Isom quickly answers. "The primary instruments were the Roland JUNO-106 and the Sequential Prophet-6. Those are our workhorses. We got so much use out of them, and we love those synths so much. We used a Moog Sub Phatty for the bass and then so many different software instruments. In particular, Arturia's stuff," says Sean.

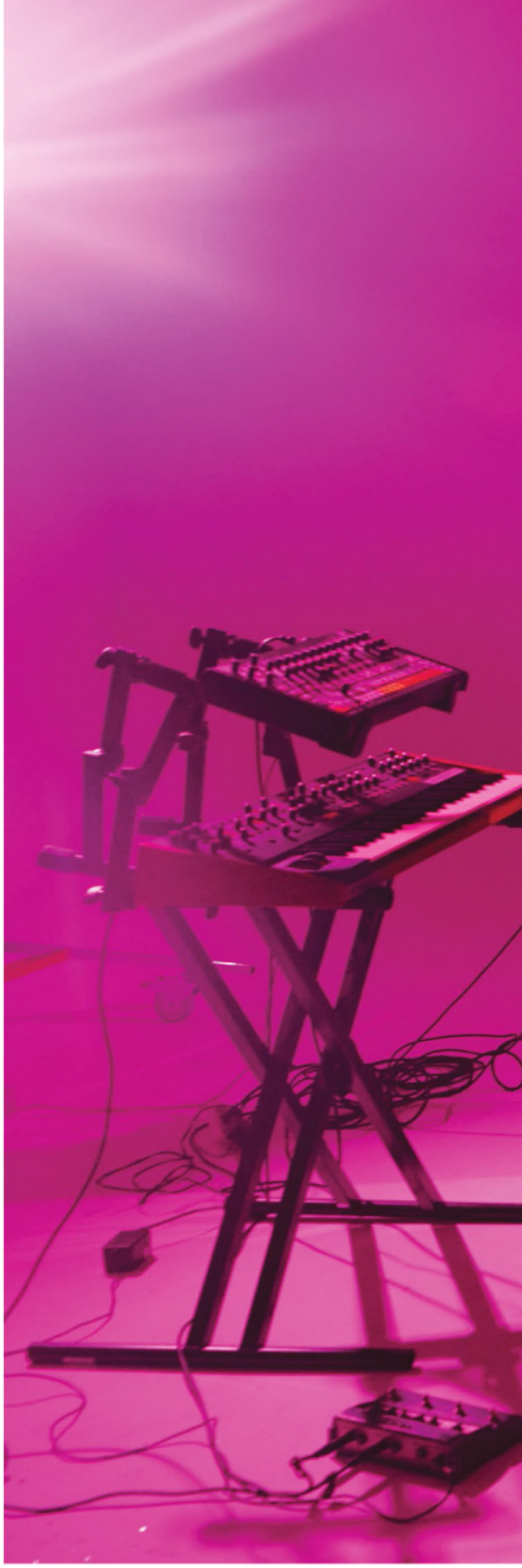
> "I feel like we opened up a channel. A lot of ideas flowed through..."

"Their Mini V is amazing, as are their Prophet-5 V and their ARP2600 V. We probably put a million plugins on it to make it sound as warbly as possible," says Isom. Sean adds: "One of our approaches with synths is stacking. We program MIDI and then run it to the Moog, then run it to the Prophet. We'd just stack different sounds. *In The Sedantary* has a Moog bass that is three different sounds from that Moog. We'd just perform it and create just a really unique sound that you couldn't replicate if you tried."

Sean reveals that despite the software-generated textures on *Acid Star*, his background as a pedal-hoarding guitarist makes him savour the knob-twiddling joys of hardware a little more: "I'm constantly on the floor, tweaking pedals and I like the feeling of that. But, yeah, what computer software can do now is just mind-blowing. The things that Isom would achieve with synthesis and dialling in sounds from the Arturia plugins just sounded so good."

The ominous synth bass took its cues from one of electronic music's first pioneers: "For synth bass, we moved between the Moog and the Juno-106. For the song *Pavement*, I was trying to emulate the *A Clockwork Orange* score by Wendy Carlos. It's really baroque sounding."

Isom tells us that his primary instruments are the drums and piano, whereas Sean is guitar and everything that goes along with guitar. "I love collaborating on anything synthesis, because I feel like when tweaking analogue or modular



"We have such a synergy for this project," Peel tell us, indicating that the future will yield more releases...

synths, Sean has an amazing brain for sculpting sounds. It's the same with his pedalboard, he'll go in sonically and shape synth sounds in a similar way. Finding all the different patches and tweaking oscillators – it was amazing just watching him and letting him go. It's interesting because I think that foundational instruments will inform the way that you then approach other instruments..."

We ask Isom about his approach to working with disparate synth elements in the box. "We started the record in Logic and then finished it in Ableton Live. One of the things I love about Ableton Live is that automation is so precise. With all the analogue synths – you can't really automate them in the same way. That perfectly controlled automation. What we ended up doing is taking both hardware and software synths and layering them together, where you can be so detailed. I was trying to treat a soft synth like it was an oscillator of an analogue synth, where maybe the main warmth and texture comes from the analogue – but the high-end and the resonance and sweeps in the release. The more precise stuff is coming underneath from a soft-synth, where that automation can be tighter. You play them together and you get a super-sound!"

True faith

On the subject of influences, the record's retro-leanings certainly evoke the spirit of the stable of Factory Records, and those '80s rock/dance crossover acts that helped bridge the gap between the then murky, club-based world of electronic music and chart-friendly rock/pop. We wonder if these were conscious reference points? "[The sound] was definitely dictated by our influences," says Sean. "It's funny, I feel like on our EP, we were definitely living in this very post-punk, Manchester-based 1970s vibe. Now it's just evolved into the 1990s rave culture of what was going a bit later. It's stuff that I love personally. I don't think it was super intentional, but it was things that Isom and I were really on about and are still exciting to us. I'll still listen to those Joy Division or New Order records, and it excites me even today. Whether that's just nostalgia or it being really genuinely great music, I don't know. But those things are all in our DNA, 100%."

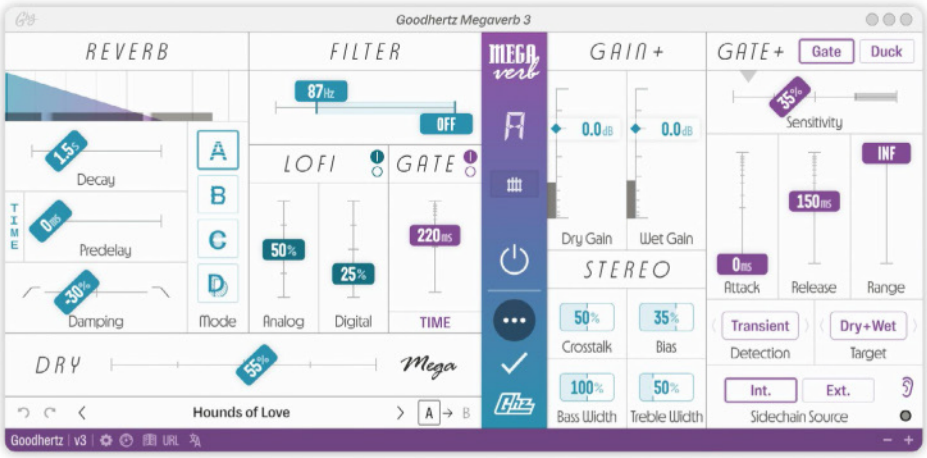
Isom reflects further: "*Acid Star* is more influenced by that next era, when technology was more widespread and got introduced more in those bands' music. I think there's something about primitive technology before computers were central. For me, just as a fan, when I listen to some of that music – the choices are so bold and I think that's because choices were limited. Where music is right now, is that choices are endless. On every laptop you really have access to every sound you could ever want. For me, that can make creation really hard sometimes.

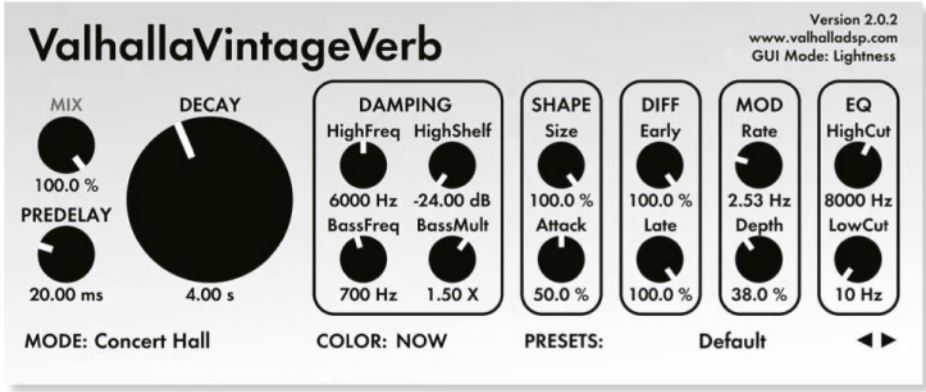
"To make a hard choice is often overwhelming and anxiety-inducing," says Isom, "But, yes, the meshing of post-punk with technology is an era where I feel drawn to. We're both really into Martin Hannett – the producer of a lot of those records. There probably weren't even that many synths in that studio, but the way they incorporated the Moog in their early work, I find really inspiring. Though we're using Logic and Ableton, we're trying to limit the choices and trying to approach it how a classic band would."

Aside from the synths, the record is a rhythmic tour-de-force, spanning the trip-hop breaks that pepper *OMG* to the four-to-the-floor club-filling momentum of *Mall Goth*. The beat programming was driven by Isom's obsession with the process: "A lot of those tracks came from that early three-day session. With those two tracks, we were just messing around and doing the improv. Sean was in the control room programming the drum machine and I would be in the live room with the drum kit, just responding to it. We did that for a bunch of different songs. *Mall Goth* and *OMG* both started as rhythm tracks and we jammed over the top of them for around 10 to 20 minutes. I remember specifically listening back to both of those, and they had a lot of energy. I cut them down and arranged them into more of a loose structure."

Isom continues: "The thing with recording to a drum machine is that it's a little bit counter-intuitive, unless you're the best drummer in the world. When I'm trying to play along to the drum machine, my performance will push and pull a little bit. Sometimes it'll be more on the beat than others, but usually what I'll do is that I'll edit the drums a little bit. I can be really critical with the low end and the punchy-ness. I love the way a drum machine and live drums sound when they play together, but I hate the way they sound if they clash in the low-end. I made sure to really edit the kicks. I also side-chained the drum machine to the live kick. Sometimes I would remove the low-end of the drum machine, and sometimes there wouldn't be low-end in the drum machine, and would be more mid and high/mid.

"My favourite and least favourite part of the process is getting the drums right. It's probably what I obsess over the most. It's a never-ending cycle of trying to get the right drum sound. I go pretty deep on that. The initial edit was on Logic, then I put both these songs into Ableton Live. I love the way you can process drums in Live, so I further fine-tuned it there, as well as experimented around with additional sounds."





Valhalla VintageVerb was a core component of the title track's infinitely expanding vibe

Riding the song

Peel's use of spatial effects – notably on the album's title track, which stretches the lead vocal out seemingly infinitely – is a key ingredient. But, what tools and techniques were deployed to manipulate virtual spaces? "For that [the track *Acid Star*], it was a combination of the Goodhertz, Inc's Megaverb, and I'm such a fan of the Valhalla DSP VintageVerb. To get that specific sound I remember putting a little bit of 'verb on it, but what I did was reversed the vocal, then stacked it underneath. Then I played with the 'verb on the reverse vocal. That reverse aspect is just as important as the reverb. The more textural element is probably the reverse mixed with the vocal. It was really a duplicate tucked underneath," explains Sean.

It's a special song for Isom, who remembers when Sean brought it to him in its early form: "I remember when Sean showed me it initially he was just playing it for me in the room. He was singing the early melodies and the chorus. When the song starts it's very intimate and it's very classic. I feel like, for me as a listener, I can guess how the whole thing's going to go – you might imagine it following quite a conventional

path. One of my favourite parts about that song is that it starts in such an organic, intimate place and then it slowly morphs into something completely different. If you're in for the ride with that song, then it takes you to a completely different place. To me, the reverb is approached like a synth. Acoustic guitar and synth together, for us, was a hard thing to coexist and feel natural. By the end of the song, I think we figured out a way to present those sounds in a way where they complement each other. It ends in this spacey, '80s, wonky dimension."

"I think that Isom is a genius in the synth work on the song," says Sean. "I remember on the bridge, that synth-hook line came really early in the process. I think it was on Teenage Engineering OP-1, actually. We were in my wife's studio apartment, while my wife was working we were working on the song and Isom was just in the hallway and came up with that. He built off of those arpeggiated synths at the end."

The next spark

With album #1 a solid statement of creative intent, we enquire as to whether Peel's future is mapped out? "We're always interested in different music at different points in time. We're also in Foster the People, and so with that, we're always digesting culture. But [with Peel], it's such a synergy that he and I have for this project. I think it's different lenses and wherever we're at, at the time, will dictate what kind of music we make."

Isom is a little more technically specific on how he'd like to build album #2. "*Acid Star* was such a creative purge and right now I feel pretty empty. I don't know where that next creative spark is going to come from. With *Acid Star*, there were two things we were trying to chase that I feel we at least kind of achieved. One of them was incorporating the dance inspiration in the drums, but having that come from an organic place. Filtering dance music – which is primarily made with machines – through an organic drum performance. With four-to-the-floor, more traditional dance-sounding BPMs but also with more breaky, half-time level (as trialled on *OMG* and *Cycle*).

> "We've played live together so much that it is an extension of our psyche"

"My strength and weakness is that I love drums so much that I just want to process them into oblivion. I enjoy processing the drums so much. At the beginning of the song it sounds so energetic and exciting just crushing drums and compressing, but I run into this problem, which I've encountered on every record I've worked on. I over-process it [in isolation], so by the time we come to writing the vocal, the drum processing is taking up so much space. When you're assembling all the sonics, everything needs its own place. So, I have to work backwards, and take some of that information out of the middle and the high frequency ranges. Whenever that happens it feels like a little death; I have to dial it back."

Playing live to global audiences as Foster the People, and getting into the circuit now in renewed form as Peel, we wonder if the pair prefer the stage or the studio? "When you're recording you don't get immediate feedback, but on-stage you do. There's something about having songs that move a crowd, and there's a symbiotic relationship going on. It becomes its own language, its own art form," explains Isom.

"The pandemic took that relationship away, and made me realise it was to the process. Sean and I have played live together so much that it is an extension of our psyche. I think in the past I might have said the studio is where I'd rather be, but where I am sitting right now, is that it's equally important and they both inform each other." **cm**

Acid Star is available now via Innovative Leisure. Vist peelband.bandcamp.com to purchase it

HEAR MORE

Cycle
spoti.fi/3UuaxGi

Y2J
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cm/reviews

The latest computer music gear tested and rated!

68__MODALICS MINDST DRUMS

It might be too purple for our reviewer, but MINDst Drums delivers all the mix-ready, real beats you could need...

Our promise

We bring you honest, unbiased appraisals of the latest computer music products. Our experts apply the same stringent testing methods to all gear, no matter how much hype or expectation surrounds it.

What the ratings mean

1-4__A seriously flawed product that should be avoided

5___This product's problems outweigh its merits

6___A decent product that's only held back by a few flaws

7___Solid. Well worth considering

8___Very good. A well-conceived and executed product

9___Excellent. First-rate and among the best you can buy

10__Exceptional. It just doesn't get any better than this!

70 Wavesfactory Equalizer

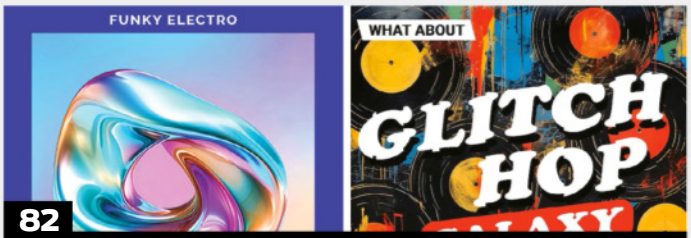
72 Korg Gadget 3

74 SonicProjects OP-X PRO-3

76 E-instruments Desolate Guitars

78 Arturia Pigments 5

80 Plugin Boutique Scaler EQ



82 Soundware

Awarded to products that challenge existing ideas and do something entirely new

A product has to really impress us with its functionality and features to win this one

If the product exceeds expectations for its price, it will receive this gong

In the opinion of the Editor, the best product reviewed in the magazine this month

COMPUTER MUSIC VALUE Award

Modalics
MINDst Drums

$99 PC MAC

It might be a bit too purple for **Andy Jones**, but behind its simple UI, MINDst Drums delivers all the mix-ready, real beats you could need...

> MINDst Drums is, on the face of it, another drum sample ROMpler that is attempting to bring real acoustic drumming to your computer-based compositions. It has a drum kit on the main page of its UI, you load sampled kit setups in, play different MIDI file grooves for each and can edit and mix each drum sound. There are effects per channel plus five master effects, so it already sounds pretty decent. For the outlay and maybe the feel of the UI, you'd understandably think that's the end of the story. However, the clue is in the 50,000 samples that come with MINDst Drums' harness 'Smart playback algorithms', the ability to adjust mic bleed levels and drum hit positions and more. In short, there's more than meets the eye. A lot more...

It's all in the MIND

The only slightly complicated aspect of MINDst Drums was installing it. You download the installer, load the plugin into your DAW, and drag in (or load) a license key. Then you have to download the content and tell the plugin where that is on your system. The plugin uses MLAC (Modalics Lossless Audio Codec) to ensure loading in samples is quick and seamless, something that is definitely apparent when using the plugin.

The main window shows the drum kit, and clicking on each part (module) of the kit opens up a different edit window to the left. Here you can make more obvious changes to the drum's tuning and velocity envelope. But it starts to get more interesting with modules like the snare, ride and hi-hat, where you can alter other parameters. Mostly this takes the form of where and how the module is hit. In the snare's case, you can choose three areas from the centre out, for example, and even the leading hand to hit

This is one of the easiest and classiest-sounding drum instruments in its price range

them. And for the hi-hat, you can choose to play it with one or both hands. This means that on top of the usual velocity changes to trigger different layers of samples for realism, there's a lot more to play with for added authenticity.

Dive into the mixer page and you can choose to adjust levels, mute and solo for the six main components of the kit, or select an expanded view of 13 which has extra tom, cymbal and other kit elements. Each part of the kit has individual drive, compressor and EQ effects to adjust, plus two sends to studio and plate reverbs. There are also five master effects for the overall kit, which have the two reverbs plus drive, compressor and filter, which can really make a difference to your sonic attitude. You can move the sound way beyond the real, morphing the kit into more esoteric domains.

As great as the effects are, it's the extras in this mixer section that separate MINDst from many drum samplers . These include mic and bleed changes – which we cover to the right – a comprehensive set of MIDI mapping tools, and the ability to assign each part of the kit and even different mic setups to different channels in your DAW so you can use your own effects on each. Comprehensive this mix area most certainly is.

MIND full

We've barely covered the MINDst Drums core sound, but when you consider all the extras we have discussed, its adaptability to many a diverse project is obvious. It is based around one massive kit and many variations in terms of mix setups. The MIDI Player provides hundreds of grooves, fills, flams, and the authenticity is ramped up with playback algorithms that, for example, change a hat sound depending on its duration, just for more layers of realism.

Don't go expecting much in the way of TR-XOX sounds and dance beats (although you could probably twist it to do so if you dug into those effects and it versatile mixer). We could probably have done with some skin options – we're not sure the current UI projects the pro strengths of the instrument, but that might just be an [our!] age thing. Otherwise this is one of the easiest and classiest-sounding drum instruments in its price range. **cm**

Web modalics.com

The master effects (right) include drive, compressor, filter and two reverb sends, which are very flexible additions

You get some neat extras like setting bleed levels (shown above) or the ability to adjust mic levels on some drums – a couple of features that set MINDst Drums from the rest of the market

Modalics mix extras

There are many hidden and not so hidden extras with MINDst Drums. Two in the mix section are the ability to set drum microphone levels, and also set the bleed level. Clicking on each drum sound in the mixer opens up this more detailed window above the currently selected effect. Options can vary between adjusting levels of three toms that make up the overall tom sound, to setting different mic levels on certain parts of the drum kit. On the snare drum, for example, you get mics for snare top (x2), snare bottom and condenser. With the crash cymbal you get seven cymbal levels to adjust for the mix. Deeper still, you can also set bleed levels, as in how much you can hear of the rest of the kit when a sound is solo'd. On a simple level, this might be adjusting the snare so it is more evident when you solo the kick for more realism; a more complex example is adjusting every kit bleed level for the room sound. These are lovely extras that give MINDst Drums a pro sound.

Alternatively

Toontrack EZ Drummer 3
£149
Enter the EZ Drummer world and you will get every beat catered for and a lot more. Ultimate drumming!

IK Multimedia MODO DRUM
£79.99
A superb range of kits and loads of parameters to adjust in the minutest detail

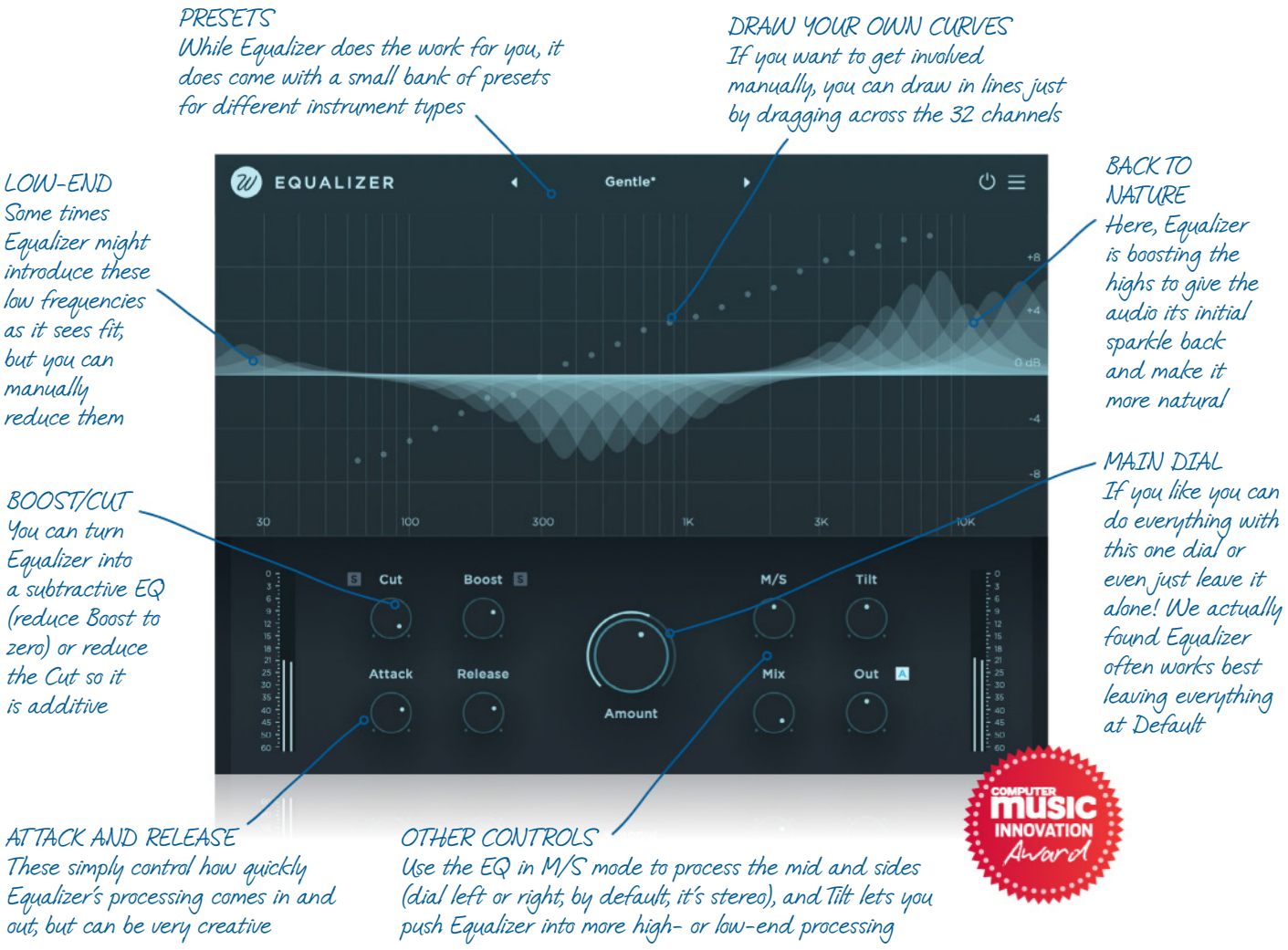
Verdict

For Simple looking but hides power
Very authentic sound
Love the bleed and mic extras
Huge variety of sounds and grooves

Against Slightly faffy install
Effects setup took a little getting used to

Never judge a drum sampler by its cover, MINDst Drums delivers authentic drum action for a decent outlay

8/10



Wavesfactory Equalizer £85

PC MAC

Another day, another smart EQ, but does this rather blandly-named processor do a great job without stressing you out? **Andy Jones** tunes in

> Everything is 'smart' these days when it comes to music production. AI is doing more of its thing and we're doing less of 'our' thing, but as dystopian as that sounds, when it comes to certain time-consuming mixing tasks, AI is welcome to them. Dynamic EQ processing is a case in point and there are plenty of 'intelligent' tools that are ready to continuously tweak EQ parameters as they go. Wavesfactory's Equalizer – 'we'll get straight to the point with the name,' they must have thought – aims to go one better. Or should we say, one faster. This EQ analyses your audio, shows you the adjustments it's making, and you increase or decrease the processing with one knob, That's not quite all it does, of course, but that's the central philosophy, and it's a great one.

So how does it work?

Equalizer has 32 bands of processing, and it essentially analyses your audio in each band and boosts or attenuates the frequency at that point according to its smart thinking. What it is doing, then, is effectively taking your audio back to its source sound or, if you like, making it sound more natural. As Wavesfactory say, it "takes from where there is too much and adds where there is need. Put simply, it's an Equalizer". Fair enough. So if you have a muddy bass synth, for example, it will likely reduce lower frequencies up to around 500Hz, while often boosting the highs, effectively bringing everything back to zero – almost like it's adding a calming influence on everything.

And we're not just talking about individual tracks, as Equalizer will work on entire mixes too, so you can use it as possibly the simplest mastering tool ever. Whatever audio you apply it to, you get a lovely dynamic graphic showing

For certain time-consuming mixing tasks, AI is welcome to them...

you what processing is being done to each band in real time, with very obvious boosts shown above the central line and cuts shown below – it's that straightforward. A central dial lets you push theses boosts and cuts, and at first we wondered why on Earth you'd want to do this, when Equalizer had already decided what was good. As it turns out, leaving the knob on the default 50% setting is usually ideal, but pushing it makes Equaliser a more creative effect.

There are more options to dig into if you don't want to leave everything up to the AI bots, the main one being the ability to draw your own curves (we cover the rest of the controls in the box, right). Here, you can mouse-in and correct any boosts or cuts you are not happy with. We found this especially useful for reducing bass frequencies that Equalizer might have introduced, just to reduce the overall mud a single sound might contribute to in the overall mix. It's a bit like having the ability to take over your self-driving car, so welcome and easy to do.

We applied Equalizer to several sounds and it was more dramatic with those basses, but still added presence to leads and beats. We did find – as is always the case with EQ – that removing other processing on the track helps, but it genuinely does improve sounds with ease, either dramatically, or subtly.

A little help from an EQ?

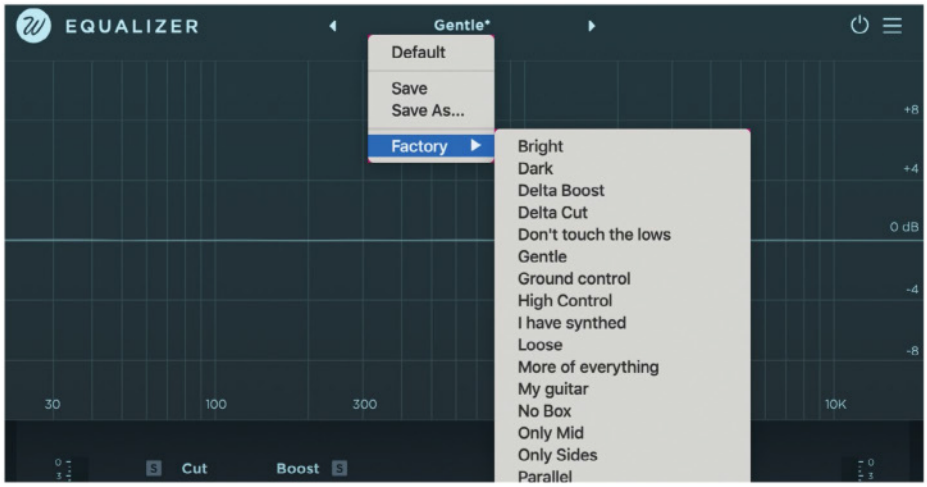
We've seen plenty of intelligent plugins, and some do a great job but still require some intelligence from the user (a tall order, sometimes!). Wavesfactory Equalizer differs in that you can use it on any level you like. Let it do all the heavy lifting, or get involved and use it as your assistant. We were quite surprised at just how good it made overall mixes sound – used at sensible and subtle processing levels, that is. It made us feel like qualified mastering engineers just by dialing it in, albeit feeling slightly guilty that we hadn't spent years studying on a Tonmeister course for the knowledge. For £85, this is one of the best ways to enjoy a little auto-intelligence, and as long as you don't mind leaving your imposter syndrome at the door, is a great way to improve your sound with minimum effort required. **cm**

Web wavesfactory.com

More often than not, you can simply leave these controls alone in their default positions, but they also let you get more creative with Equalizer should you wish to

What else does Equaliser offer?

As easy as Equalizer is to use on a very basic level, and on top of the ability to draw in your own curves, there are several other controls on offer to help dig into your EQing. Cut and Boost simply determine the levels of each of those, but the more interesting options here are the Solo buttons for each. These let you hear the delta – the difference between input and output – so you can see and hear exactly what Equalizer is doing, a great feature that gives an insight into the Equalizer processing philosophy. Elsewhere, we have Attack and Release which determine how quickly Equalizer's processing comes in and out, and pushed to extremes these can make the plugin quite creative. On the right hand side there's a Tilt control that will have Equalizer process more of the highs for a brighter sound, or lows for a darker one. Finally, M/S delivers Mid-Side processing so you can apply Equalizer to the sides or mid part of your sound stage. By default (50%) it is stereo.



Equalizer comes with several presets, too, which can be applied to different sounds, or provide different moods

Alternatively

Oeksound Soothe2
£169
More of a problem-solver than natural EQ, but still operates in an intelligent, dynamic way

Soundtheory Gullfoss
£155
Similar automatic EQ that magically works, and named after a waterfall in Iceland, so it must be good

Verdict

For Sounds great on most sounds
Very easy to use
You can dig in deep if you wish
Can be used creatively, too

Against You'll need to use it subtly, especially for total mix processing

A surprisingly capable and very easy to use EQ that you can go as deep with as you wish, but seemingly always delivers a better sound. What more could you want?

9/10

Korg Gadget 3

$299 (Mac) $40 (iOS) MAC iOS

Korg's Gadget is unusual in that it made the move from iOS to desktop, but is there room for it in 2024? Our inspector of Gadget: **Andy Jones**

> Korg's Gadget is a deliberately streamlined DAW that actually does more than you'd believe a simple sequencer can achieve. It was one of the first (really good) iOS DAWs, and then crossed over to the Mac and even the Nintendo Switch. Whatever platform you use Gadget on, it is designed for you to get musical ideas down fast without the complex features that most other DAWs hold dear getting in your way. Its biggest draws are its actual Gadgets; over 40 synths, drum machines, samplers, utilities and more that deliver 6,000 quality sounds that you can easily put together. You can buy these Gadgets separately or as a bundle to run in your own (AU, VST2, AAX) DAW, but the beauty of Gadget is to easily get your ideas down in its own environment and then transfer them to that DAW for further work should it be required.

The simple DAW problem

DAWs that follow this simple approach are faced with big issues every upgrade, though. Most software developers pack in extra features and layers with every version increase, but with simpler DAWs, adding too many extras undermines their easy nature. So where can Korg go with its updates? Really it's to make the integration better with your existing DAW, which the company has attempted over the years. Not only has it made all the Gadgets run in your DAW, but it has added more export options in the iOS version to that DAW. And of course the Mac version of Gadget means transferring within the macOS environment is even easier.

Gadget 3's big updates continue this expansion into the outside world by making the Gadgets both VST3 and (in most cases) AUv3 compatible, so that list of DAWs they run on now covers most standard desktop and mobile titles.

We've been using the Gadgets as inspiration balls of fun within Logic for a while

However the more Korg makes its Gadgets work in other DAWs, the better it has to make the existing Gadget DAW environment, just so people carry on using it and not just their own DAWs! V3 adds a lot here, from workflow extras like pattern chaining to big additions like extra effects. Here, five insert effects called Pitch Shifter, Auto Pumper, Transient Shaper, 8-Band EQ, and Stereo Imager add to the more standard existing library, and very welcome they are too.

A new search facility is a surprising highlight; we say 'surprising' as it's only something we realised we needed after using it. Search by sound type – pads, leads, drum kits etc – and the relevant Gadget sounds will be listed to audition.

The two new Gadgets are good too, the Sydney sampler especially, which uses a wide variety of included Korg sounds – and the ability to load your own in – alongside some decent editing extras. And Santa Ana, the other newbie, brings some much needed rhythm guitar into what could be seen by some as a more EDM-angled DAW. Just two v3 Gadget additions might be tight, but there are now over 40 covering most needs. There's also been criticism over the time taken for some of these additions, but we think v3 delivers a well rounded mix of 'must-haves' and 'wants'.

Inspect a Gadget?

Both the iOS and Mac versions of Gadget on test are aesthetically similar, but do have different pros and cons. The fact that Gadget was developed for iOS still means it is easier to use in that environment – using it on the Mac often had us reaching for our laptop screens to try and 'touch' it as we are so used to the iOS version, so the Mac options can feel restrictive. And with Korg's Gadgets now running in any DAW, we do wonder whether desktop users should buy the Gadget bundle for less cash, and just use it in their own DAWs. Indeed, we've been using the Gadgets as inspiration balls of fun within Logic for a while, so recommend this cheaper way if you insist on only using your existing DAW.

Gadget is still a great buy, and while we'd like to see more export options, we understand the difficulty of, say, directly exporting Gadget projects into Logic. We can dream though. **cm**

Web korg.com

Lots more effects (above) and sampling in Gadget 3. It's taken a while (we asked in v1!) but very much worth the wait...

The all-new Santa Ana Gadget has some great rhythm guitar sounds; meanwhile this 'note edit window at top/instrument at bottom' combo is our favourite, but you can adjust the UI to taste

Gadget in action

As we've focussed on updates in the main text we'd better give you a brief overview of how Gadget works when you put a tune together. Essentially it revolves around various mix, arrange, and instrument windows, just like most DAWs, but with everything to hand for speed. You get an overview of the arrangement with sections to arrange, and each of these can be edited down to note level. A mixer allows you to add new Gadget tracks to record, and you then select either a sound or instrument to do just that. All the windows can be made bigger so you can focus on adding notes or playing, and all very easily. Our favourite layout is having the note edit screen at the top and instrument at the bottom, but it's all fairly customisable to your workflow. And really, with Gadget, it is all about this workflow, and we're pleased to report that some of the more hidden v3 updates – like the new effects getting a page to access them (see pic bottom) – make Gadget 3 even slicker.

Alternatively

Apple Logic for the iPad
£4.99/month
Broadly more pro and with some easy features built-in, but annoyingly subscription only

Image Line FL Studio
£various
Cross platform including mobile, FL Studio delivers great music creation features across the board

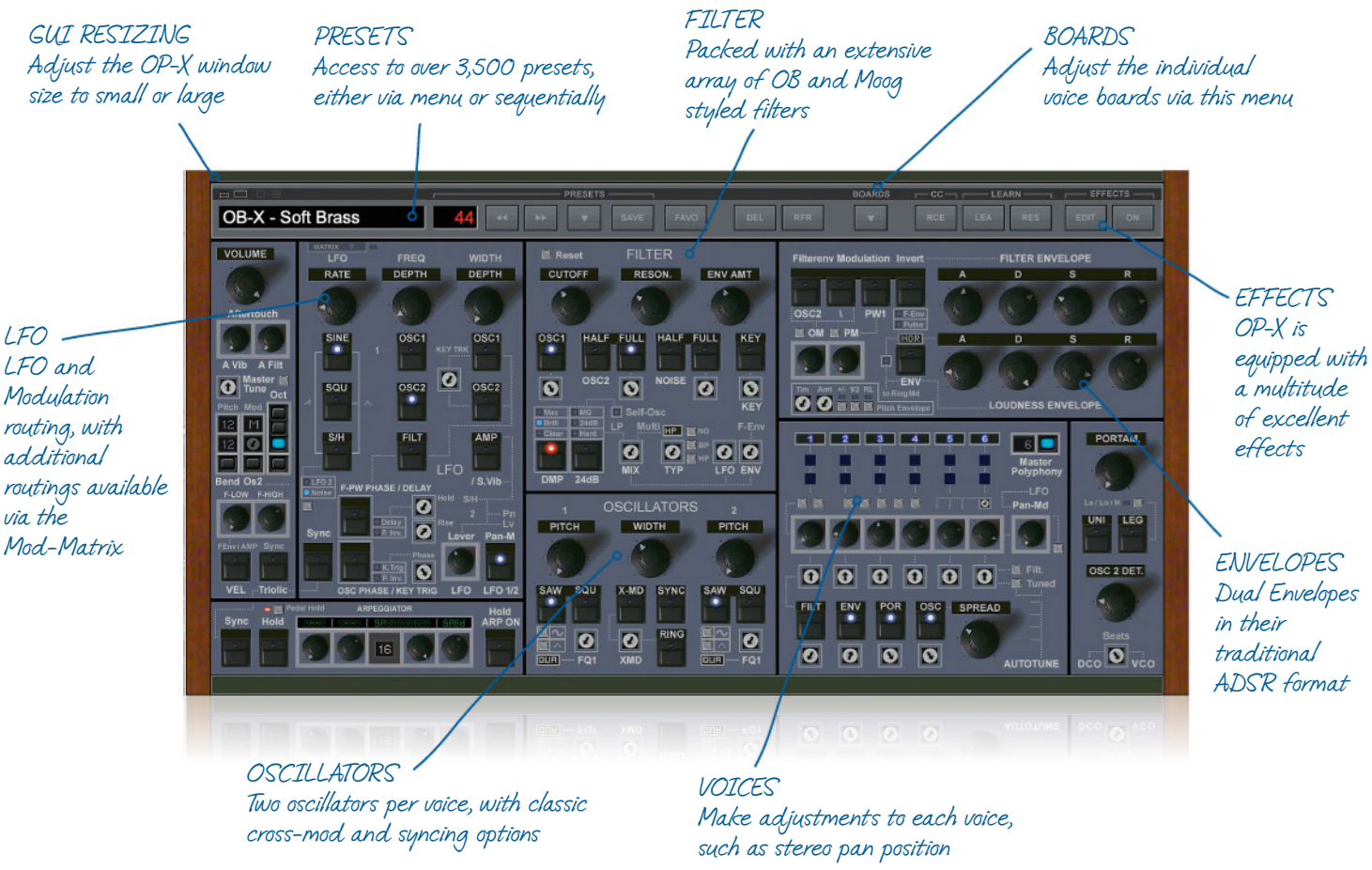
Verdict

For Some lovely upgrades in v3
New sampler is especially cool
All the Gadgets still inspire
And the workflow is as easy as ever

Against Desktop DAW owners are better off with the Gadget bundle
Pricey (UK price often the same as the $)

Gadget remains a strong iOS DAW, but unleashing its children on the outside world means you might just prefer using your own DAW to make music with them

8/10



SonicProjects
OP-X PRO-3

€99 PC MAC

Roland Schmidt discovers the new Poly-plugin from SonicProjects, which pays homage to the big beasts from Oberheim

> One company from the vintage era which seems to be getting quite a bit of attention lately is Oberheim. Renowned for its groundbreaking Synthesizer Expander Module (SEM), and '80s polysynths, its name became associated with huge-sounding synthesisers, wide pads, deep basses and sync-based leads.

The OB 1-12!

This is ripe territory for any soft-synth designer. One such design house, SonicProjects, hasbeen beavering away with its OP-X synth Oberheim clone for sometime, which is now in its Mk3 phase. Even the name bears reverence to Oberheim, but how far does this extend? Well, quite some considerable margin, in both sound and architecture, but let's start with the basic concept.

The PRO-3 version of the OP-X is a 12-voice synth, available in only VST3 and AU formats. It's sharp GUI ships in a default 'beige', with two additional skins available for download, labelled as Dark and Blue. The latter could easily be associated with the OB colour scheme, and according to SonicProjects, is the most requested skin in the pack.

Voicings

The signal construct begins with two oscillators per voice, although the extent you can dive within each individual voice is considerable. Inspired by the OB Matrix-12, the OP-X allows access to virtual voice boards, at which stage you can control individual parameters, such as tuning calibration and panning of each voice. Just like its analogue counterpart, notes cycle through the voice boards in sequence. This means that any settings will be repeated upon each re-triggering of a voice, which can be superb if used in a sequence or pattern of notes.

Building user patches becomes an enormously pleasurable pursuit

Access to the individual voice boards is available

You can switch the OP-X into poly-modes of six, eight and 12 voices, as well as Mono/Legato and Unison modes; the latter being a floor-shaker thanks to voice stacking and detuning.

The extensive nature of the filter section adds colour to the melée. There are 10 different filter types onboard, although exploration of these iterations extends exponentially beyond this figure. At the more simplistic end, OP-X offers both OB-style filters at 12db and 24db, and a Moog-style ladder filter, fixed at 24db. These two are perfect companions, as the OB filter maintains lower-end structure integrity, against the Moog ladder, should you push the resonance. However, the OP-X also includes a SEM-style filter, with all of its complexities in low, high, band and notch-pass filtering, and all controlled across the stereo field for added depth and detailing.

Getting Modded

The traditional construct continues to the envelope section, where dedicated envelopes for amplitude and filter adopt the familiar ADSR layout. The LFO section also displays Oberheim familiarity, with immediate routings to the more obvious destinations, such as oscillator pitch and PWM. If you want to go further, a dropdown reveals a modulation matrix, inviting selection of source and destination, allowing the routing of pretty much anything to anything!

Getting patched

So, why consider buying a reimagining of an Oberheim, such as this? In the case of the OP-X PRO-3, you get far more than what you might call an analog-styled sum-of-parts. It really does sound impressive! There is a weight and depth to the sound, which is sonically a cut above, as well as being incredibly authoritative. The detail in the bottom end is sublime, while the high/mids can sound beautifully wispy, according to your filter preference. The OP-X also extends the OB remit, with lots of additional niceties.

Packed with a staggering 3,500 patches, you can very quickly get an idea of its sonic character and capabilities, and while the interface will take a little bit of getting used to (much like an Oberheim), building user patches becomes an enormously pleasurable pursuit.

Web sonicprojects.ch

Arps to MIDI control

It becomes very apparent, from the moment you begin to play around with the OP-X PRO-3, that it makes no bones of its analogue stylings, while staying within the digital domain for a perfect level of convenience. Thanks to the voice board options, you become very aware of detuning; it's subtle at first, but with the ability to really push the natural and analog-istic detuning envelope if required, and with the instant ability to rein it in, should it become too unwieldy. Further control is available via the MIDI Learn function, but we also found ourselves getting lost in the Arpeggiator section, which provides an extensive array of 32 modes. We also found that while the GUI isn't hugely flexible in its ability to resize, it does offer two window sizes, with the smaller version being perfect for laptop working, and the larger size looking great on the larger screen in the CM studio. In its larger format, it definitely made the editing process more pleasurable.

The familiar OB look of the alternative OP-X Blue skin

Alternatively

GForce Software OB-X
£99.99
GForce are always fastidious about detail, and their incarnation of the OB-X is another worthy clone

Cherry Audio Eight-Voice
$59
Based around the OB 8-Voice, Cherry Audio's impressive plugin creates thunderous tones

Verdict

For Superb reimagining of an Oberheim synthesiser

Deep-diving to the voice board level is just genius!

It's packed with thousands of patches

Against The operational elements of the OP-X will take a little getting used to

While the OP-X PRO-3 clearly started life as a software clone, it extends way beyond the concept, while keeping impressive detail and depth of sound

9/10

E-instruments
Desolate Guitars

€$149 PC MAC

Desolate Guitars could be the guitar library you didn't know you needed, and is one of the most inspirational tools **Andy Jones** has used this year

> Desolate Guitars is weird Americana guitar – David Lynch at his best – or the deepest shoegaze, post-rock ambience you can feel, all in an easy-to-use Kontakt package. It is both very specific and very expansive, both a soundtrack to a desolate, cold, post humanity sci-fi time, and an emotive, warm atmospheric and optimistic future. And all of it's been wrought from four guitars.

We never thought we'd open a review with a conclusion, but that's kind of what we have done. That's because Desolate Guitars makes you rethink your music at every turn.

Is that all?

And the deception starts as soon as you open up Desolate Guitars, because you might not expect very much, as it all looks just a bit too simple. Sure the artwork is amazing – that weird, main image just about sums up everything DG is about – but on screen all you have are a couple of amps to play with, a Tremolo dial (with Speed knob), a Spring reverb effect and an Effects dial. On top of the Kontakt keyboard, that's it.

Then there's the presets, such as they are. 23 grouped over four different banks. You're kidding right? However, luckily we took note of the download size – this library is a not inconsiderable 34GB in girth, so there must be something at play here behind this admittedly great looking but very simple screen, right?

Yes. There is.

Just like the best David Lynch film, all is not what it seems with Desolate Guitars. You start with four guitars on the left. Call them 'presets' if you like, but e-instruments labels them 'starting points' or 'snapshots' instead, because that's the secret, which we'll come to. And thanks to E-instruments' exquisite recording of every amp and effect combo and every eventuality – OK,

This isn't just about those initial guitars, it's about where you take them and what you can do with them

within a fairly narrow 'atmospheric guitar remit' – this thing sounds incredible. It's important to stress here that very little (just the Tremolo section) is emulated or modelled; the lion's share of sounds were captured as a studio sample, hence the download size.

The four guitars, Chime, Desolate, Baritone and Mellow, can be your full instruments and sound beautiful on their own without effects. But take them through the Tremolo and Spring reverb and you're suddenly transported to desolation or jubilation. The rest of the few presets are then examples of what happens if you use said guitars as chords, swells and textures using the visible effects and – this is the crux of DG, really – a bank of hidden effects (see box, right). Once you bring these in, you suddenly get the point of DG. This isn't just about those initial guitars, as good as they are; it's about where you take them and what you can do with them. These few presets really are 'starting points', designed to start you on that journey, to catapult you into whichever film soundtrack you like.

But there's more. As we said, many effect and audio routing combinations have all been recorded by E-instruments, but so have different velocity layers for nuanced playing. But the real bonuses are the mod-wheel transition effects and the odd key switch, which can bring in reverse sounds, tremolo, legato and, with the chords, transitions from major to minor. Simply push the mod wheel up to transition between one and another and you suddenly have a new dimension in your playing. Get some automation in, and this is a sound design dream.

Desolate times?

As we started with a conclusion, maybe we should finish with an intro, but we'll conclude some more anyway! Desolate Guitars won't be for everyone – but what Kontakt instrument is? The best of these libraries aims at a niche and fills it, but the best of the best brims over the niche into other areas and Desolate Guitars does just that. If you'd always yearned for atmospheric 'proper' guitar but lacked the playing skills and banks of effects, this is it. **cm**

Web e-instruments.com

The preset page in Desolate Guitars is not fulsome, but consider these 'starting points' or 'snapshots'...

You can drag and drop the (up to) six effect tabs in Desolate Guitars to change their order, which can make a dramatic difference to your sound. Here we have the Flanger leading the charge...

The 'secret' Desolate Guitar effects

The main UI in Desolate Guitars shows the stripped down setup, which can take your guitar sound on wild journeys as is. But the not so well-hidden feature in the library is the effects section, brought into play by hitting the three dot button next to the Effects dial on the right-hand side. Here you open up the main effects chain controlled by that large Effects dial, and it's a super flexible and great-sounding set of tools to sculpt your sound with. Click on the search icon in each tab and you can choose from five delays (including Tape and Diffusion); four Reverb (like Hall and Algorithmic); four Dynamics (three compressors and a limiter); five Tone (filters and EQs); and finally four Modulation (including Tape Flutter and Phaser). The Spring Reverb and Tremolo are probably still worthy of being on the main UI on their own, but this group of six is not far behind. These effects can take the already amazing DG sound into even wilder, and more ambient territories.

Alternatively

Heavyocity Scoring Guitars 2
£89.95
Perhaps more ethereal, this focuses on drones, pulses and pads

Spitfire Audio Ambient Guitars
£249
Spitfire enlisted renowned guitarist Leo Abrahams for this library but it is pretty expensive

Verdict

For Lovely atmospheric guitar sounds
The limited number of options actually makes it more attractive to explore
Lovely effects section
Superb recordings

Against We had a few crashes, but these were fixed in an update

Desolate Guitars might well be the library we turn to for inspiration for the foreseeable future. Never has the guitar sounded so good

9/10

Arturia
Pigments 5 €199

PC MAC

Arturia's Pigments is one synth to do it all, in as slick a way as possible. And v5's additions are a lot better than they sound, says **Andy Jones**

> While Arturia's V Collection bundle tries to do everything 'vintage' in 39 plugins, the company's Pigments is trying cover all modern synthesis bases in just one plugin. Since 2018, it's been doing this very well, gradually building up enough synthesis power to try and be your one and only softsynth choice for when you need contemporary sounds in your music. Perhaps more importantly, it's also aiming to be the tool you turn to when you want to design more sounds. Sequencing and modulation options take you on dynamic journeys, and everything has always been beautifully realised to make those expeditions wonderful and easy. What can any update add, then? Surprisingly, with version 5, the answer is quite a lot.

What's in 5?

We'll cover the main Pigments synth philosophy in our main box (right) if you are new to the synth, and focus on the updates here. Pigments 4 was what you might call a 'decent' step up – not exactly revolutionary. And on the face of it, v5 delivers more tweaks than massive bolt-ons, too: extra sounds, upgraded sequencing and scale features, better CPU efficiency, external audio processing and a refined UI. But while these might not sound revolutionary, each covers quite a wide gamut. UI improvements, for example, include a sleek new Play view that really does improve workflow by simplifying the layout and homing in on the important stuff.

CPU efficiency has been improved with the option to use multiple cores of your computer's CPU. It's rather like 'switching all power to front deflector screens' and will make Pigments run more slickly across multiple tracks.

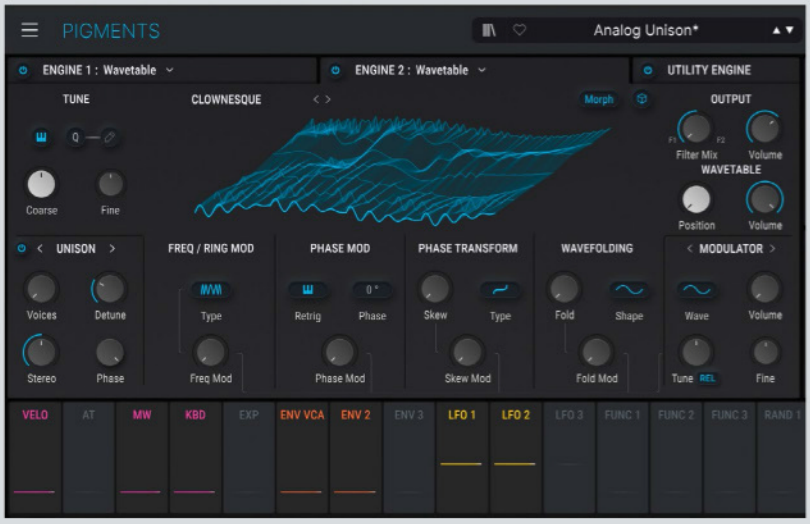
We've deliberately sucker-punched you by starting with two less interesting updates

As beautiful-looking and sounding as it is, it's the fun and ease of creating more that are its strength

though; the real fun starts with routing external audio through Pigments. You do this through the Utility engine, selecting Audio In via the second Noise source. There will be a certain amount of sidechaining or bus routing here, but once you get audio in, this can be a gloriously creative process – indeed using Pigments filters and effects might make you rethink your use of your existing plugins as processors.

Next are new Playmodes for the sequencer and arpeggiator – letting you change pattern direction, for example – and new one-click Generation settings. These let you apply varying levels of randomisation to parameters – very easy to do and very easy to get huge (or not so huge) variations in patterns, which can be an inspiring process. New Scale options allow you to create patterns in set scales and lock them there, or apply scales to other patterns. They can be either Traditional or Generative, the latter used in conjunction with the Generation settings mentioned above.

Most notable of the remaining updates are 150 new presets. These can be selected by the lovely browser from the dropdown menu which, with its many categories, might surprise you at how varied – between traditional and modern – Pigments can sound.



With two engines accessing four different synthesis types each, you get a lot of power under the Pigments hood, and the Utility option is another engine that adds a very flexible layer, too

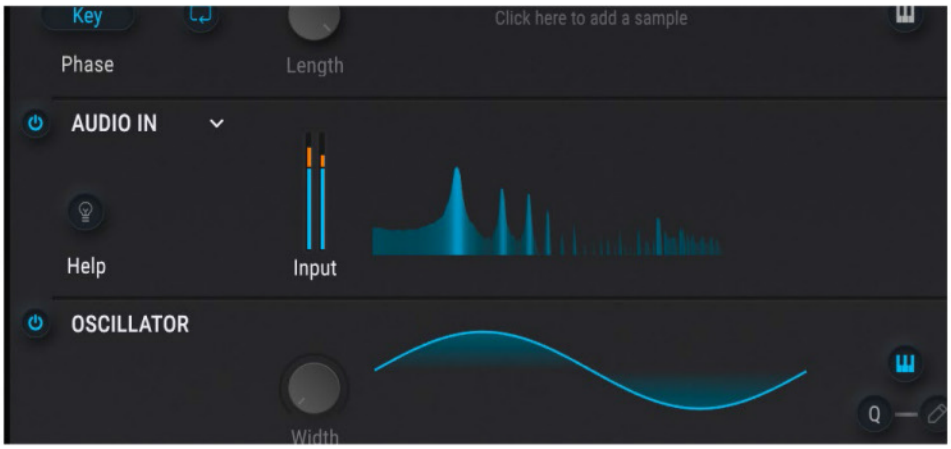
At its core

To those new to Pigments, the core of it is its engine setup and where it covers so many sonic bases. You get two main engines, plus a Utility. The main two options can access four different types of synthesis: Analog, Wavetable, Sample and Harmonic. As you load in a different type, so the section of the UI gives way to the parameters of that type. Select Analog and get three standard analogue oscillators. The Wavetable option is dominated by the central graphic with further wavetable options loaded with a drop-down menu (which handily shows wavetable additions by version number, revealing 63 extras for v5). The third Sample synthesis is focussed on granular parameters, while the final Harmonic synth engine is additive based. Utility is effectively a third engine with a VA oscillator (you can use as a sub) plus two noise sources. It's designed to play a supporting role, but can be very important, in processing external audio, for example.

A bunch of fives

Normally we'd conclude by answering the 'is it worth upgrading?' question, but since v5 is a free upgrade, that's a no-brainer. But what about buying Pigments from scratch? Well, it isn't cheap at €199 – in fact, that makes it one of the premium softsynths out there in terms of cost. But it's often on sale (half-price as we write this), and if further updates will be free like this one, then you might be investing in a great softsynth future. Either way, you are getting one of the most flexible synths out there, and, even more importantly, one of the easiest to use. And that is still Pigments's main strength: while there are great sounds in there, it's the fun and ease of creating more that are its strength. As beautiful looking and sounding as it already is, Pigments is still one of the finest tools to take you on that sound design cruise you've always promised yourself you'd have one day. **cm**

Web arturia.com



The second noise source of the Utility engine can now be set to Audio In, allowing Pigments to process external audio

Alternatively

Kilohearts Phase Plant
$199
It takes a more modular approach, perhaps, but Phase Plant is also one of the most flexible synths around

XFer Records Serum
$189
Still the standard for softsynths, Serum does wavetables and more

Verdict

For Love that audio in functionality
New sequencer and arp extras are great
Nice UI tweaks and Play area
Sounds, sequencing and modulation as amazing as ever

Against The price is high, but there are plenty of sales

Pigments is still the synth that crams in the power and flexibility, but presents it to you in a very easy to use way. One of the best sound design tools around

9/10

Plugin Boutique Scaler EQ

£59 or £4.99/month PC MAC

Scaler EQ delivers harmonic processing we didn't know we needed, but once heard, **Andy Jones** might just apply it to everything

> Scaler EQ could well be one of those 'why didn't I use that before?' plugins. It's an EQ that not only handles the boosting and cutting of different frequency ranges, like a regular EQ, but also the frequencies of notes that are in key with your song. It works out the song key and you boost note frequencies (or a selection) in that range, or attenuate those that are not. But does it make a big difference to your sound?

The scale of things

To answer that question up front – and indeed whether it's worth it's worth your while reading the rest of this review – Scaler EQ can make both subtle and more creative differences. You might not have thought you needed an EQ dedicated to scale in your life – and probably, like us, hadn't even dreamt a thing like it even existed – but once you try it, it's almost (but not quite) as revelatory as using a regular EQ. OK, it's a little more *je ne sais quoi* than that, the results are definitely more musical, tighter and often less muddied. But it's also a lot more creative than you might imagine – you can enhance particular sounds like drums in ways you might not have imagined, and stepping through its many presets can be inspirational. But before we get ahead of ourselves (OK, we already have) let's have a look at how Scaler EQ works in practice.

First up, in order to understand the UI, it's pretty easy. Just think of a regular EQ with its various nodes and apply those to notes rather than frequency. Actually, Scaler EQ does both, and its shapes are solid when applied to frequency, and 'lined' (for want of a better description) when applied to scales or notes.

The plugin can detect the key of your tune – simply hit the very obvious button and play the song, and it does the job pretty quickly – and

Scaler makes you think deeper about mixes and improves them. What more could you ask for?

then you can simply boost the note frequencies in that key using six nodes across the range, or cut them, or indeed do both simultaneously.

Dials let you alter the Frequency of the node, its Gain, it's Width and Q – the steepness of its slopes. There's also a Range dial which is less obvious, but applies to individual harmonic peaks within a Node range, so you can pinpoint exact note frequencies, or apply boost and cut to a wider range around each.

There are a lot of other features which we'll cover in the box (right), but the thrust of Scaler EQ is boosting those frequencies in key and cutting those not. For the latter, we're not really talking about misplaced notes, rather harmonic content that might exist around notes – ringing guitar strings, extraneous noise, stuff that muddies a mix without being obvious about it.

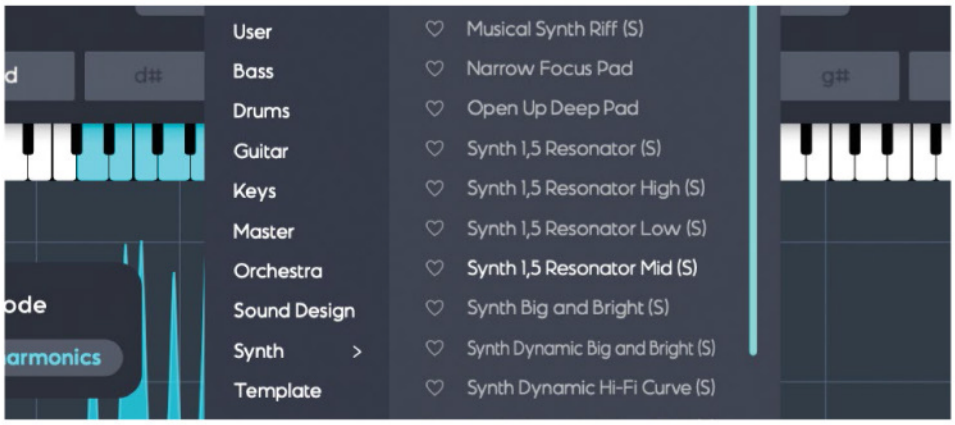
It's these elements that Scaler is attempting to attenuate and it largely does it well, which can be demoed using its many presets that are categorised by instrument type, Voice, Orchestra, Master or the looser 'Sound Design'. These are a must to audition and in conjunction with the Bypass button, will give you a quick demo of why you need Scaler EQ in your life, and how creative it can be.

On an ambitious scale

The acoustic guitar presets reveal Scaler's ability to subtly lift mixes like an EQ does, but in a musical way. It's more obvious with electric guitar where individual notes are brought out from a blurrier wall of sound. It is probably most at home with vocals, though, where tuning might be less obvious. Here you can reverse the process and boost inharmonic notes to really ID them; pulling them back is really dramatic and cleans the sound up considerably.

Scaler EQ is a bit of a shock to the system, then. It's not dramatic enough to make us feel we've been mixing wrongly for years, but it does start to make us feel uncomfortable when not using it; whether tunes might be full of inharmonic content you just can't detect. Of course, if that is the case it's not the end of the world, but Scaler does make you think deeper about mixes and improves them. What more could you ask for? Great price, too. **cm**

Web pluginboutique.com



The presets in Scaler are based around instrument type. Stepping through them makes you realise how creative it can be

There are many envelope shapes you can choose within Scaler EQ, including those Magic High and Low Shelf examples, and there's also a handy dynamics section with both a compressor and limiter

Other Scaler EQ features and uses

Scaler EQ features include what are called 'Magic shelves' which apply shelf processing to the stereo signal. There's both mid and side processing to maybe boost the harmonies of the sides or reduce those in the mid position of the stereo field. Talking of which, there is an overall stereo width dial, and also to the right of the main controls, a compressor and limiter. You can also override the detected scale with your own, or even reverse the process so you cut frequencies in key and boost those out of key – very Richard James. Scaler EQ perhaps surprisingly comes into its own matching drum loops with tunes, something we're always told to do, but, hey, it's drums so never obvious what the key is. Scaler lets you simply remove harmonic content of, say, a drum loop so that loop can be used in any song, or bring out the harmonic content so it can be matched easier. Overall, then, there are way more uses to having an EQ that focuses on scale than you (and we) thought.

Alternatively

Oeksound Soothe2
£175
Doesn't use the same process, but can still remove unpleasant frequencies with some aplomb

Eventide Split EQ
£169
Again, not the same harmonic EQ, but it does split the audio into transient and tonal parts to process

Verdict

For Surprisingly creative EQ
Pretty easy to use and understand
Lots of extra features
Who knew we needed a scale EQ?

Against You can live without it, but do you dare?

Scaler EQ can make subtle harmonic changes or be a hugely creative plugin, but either way it makes your mixes sound better, and for a small-ish outlay

9/10

Soundware round-up

Zenhiser
Solitude £49

Sterling selection of mesmerising melodies, meticulously made to add depth and dimension to your tracks. From organic house and progressive producers to straight-up techno, there's something to spark creativity in this 4.7GB collection.

Deep dives through this stockpile of smooth rhythms and dreamy patterns will yield countless track-starting points, with clean beats, bottomless bass grooves, and captivating top-lines. There are larger loops, one-shots, stripped-back stems, and MIDI files, as well. Catch the vapours!

zenhiser.com

8/10

Audiotent

Electric Fields £45

Lush and verdant vibes in this super-charged loop library, teamed up with amped up drums, electrified bass and some live-wire FX and atmospheres to bring it all home. The deep and diverse range of elements fizz with energy. With the lead lines and chords bursting with unique character and presence. And all the workhorse background beats and pieces more than ready to firm up the roots and foundations of your next big room track. A rich and rewarding landscape of loops, styled with fierce electro and the techier side of house in mind.

audiotent.com

8/10

Bingoshakerz

Funky Tech House Anthems $20.95

Ten full-bodied construction kits, packed with sounds and samples for making your very own funky and/or tech house anthems. There are radio-friendly riffs and club-bubbling beats across all the songs on offer, with special praise going out to the hooky vocals and the sublime drum programming, when they start to shine the most. The layers are loaded with well turned out bass grooves and stylish synths. There's MIDI, too, in case you have some party-pumping ideas of your own.

bingoshakerz.com

8/10

Hyper

Funky Electro £30

Super dope set of body-poppin' electro grooves, taking cues from the pathfinding funk of the '80s to the more modern spins on the sound. Boombox beats abound, with synth bass grooves locked in at a lino-shredding 128bpm holding up the back. There are also robot-rocking pads, crisp claps and snares, and plenty of MIDI to keep everything tailored to your tastes. The vibe is cutting-edge, sonically, with enough retro charm to cause any middle-aged b-boys to pop their backs out. If you're hyped on disco, funky house, breaks or beats, dive in.

samplemarket.co.uk

7/10

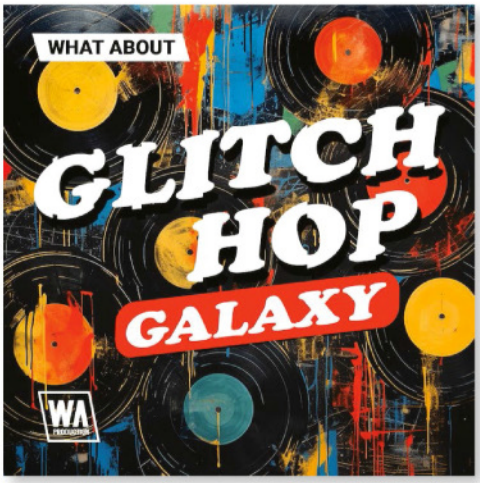
UNDRGRND Sounds

UK Breaks & Bass £29.95

It's Bicep and their ilk that are getting rightly rinsed, here. And they do a wonderful job of capturing that hybrid-garage and UK bass spirit in this sample pack. Bad boy basslines come directly down the middle, with rude riddem-riding drums giving off jungalistic and 2-step flavour throughout. Other breaks get sliced (Amen to that), and plenty of iconic synth sounds are recreated for your pleasure. From frenzied hoovers to stabby FM finger blasts, there's plenty to call for a rewind over.

undrgrndsounds.com

8/10



W. A. Production

Glitch Hop Galaxy $19.90

Fans of KOAN Sound and The Glitch Mob will be rubbing their hands over this one. Across the 1GB of content you get that futuristic, freaked and tweaked style, laid bare. With all the key components for the taking: off-kilter synths, syncopated beats, swelling FX and textures. Plus, a few fly folders of other complex rhythms to take your productions up a notch. Amongst the sweet samples and near 500 loops you also get MIDI files, and 50 Serum presets.

waproduction.com

8/10

Sample Tools by Cr2

Garage. House. Rave. £15.99 (or 300 Credits)

Fantastic body of beats and basslines, tinkering with the timely template of producers like Fred Again, Skrillex and Four Tet. If you fancy living out your DJ fantasies like that tasty trio, then take a gander. You get all the best bits of each genre broken down in this pack's title, with big room house drums, infectious 2-step grooves and revved-up rave sounds. It all fits together in a merry melting pot, cherry-picking the most energetic tracks from this universe.

sampletoolsbycr2.com

7/10

HELADO NEGRO

Roberto Carlos Lange's acclaimed latest album took him on a synth quest across the US. But it was back at home, piecing it all together in Ableton, that the rich tapestry took shape

> When you think of an album which centres synthesis, electronics and its makers as a core theme, you probably conjure a sonic image of aloof, difficult music, summoned by an automoton humanoid in a natty silver jacket. But rarely do you find an album where those references are so dextrously integrated into commentary about human existence as they are on *Phasor*, the ninth LP by acclaimed American producer-songwriter Roberto Carlos Lange, aka Helado Negro. And the work has earned critical acclaim aplenty to show for it. We caught up with the busy artist – at the time midway through a tour – and found out more about the sprawling history behind this impressive record.

Frankenstein's synth

At the heart of *Phasor* is a brick shithouse of a synth. The contraption in question, the Sal-Mar Construction, holds pride of place at the University of Illinois, and is a Frankenstein of sorts, forged in 1969 from parts of an ageing super-computer by its 'father' Salvatore Martirano. With 291 touch-sensitive switches, and sound output through a network of 24 satellite loudspeakers and four main speakers, its face is tattooed with handwritten scribbles where the usual labels go, below a spaghetti-like tangle of cables.

But look closer and its genesis was less like the big-buck, circuitry-first visions of more famous pioneers, and more familiar to the thought process of some of the more reflective creators and developers you'll read about in *Computer Music* today. Lange takes a stab at explaining Martirano's proposition: "He was like, 'oh, I have an idea to make this really weird machine that makes sounds. It's going to be a self-generating compositional machine controlling analogue oscillators with this digital supercomputer brain'. And then somebody said yes, and they built it.

The Sal-Mar, a brick shithouse of a synth...

Photo Sadie Culberson

"Obviously that kind of thing is really common now. But I think it was just so brilliant that it was *actually* done, and it was thought of and it was supported, and that he was able to create this very unique instrument to perform with and to record with. So there's that essence and that history of it."

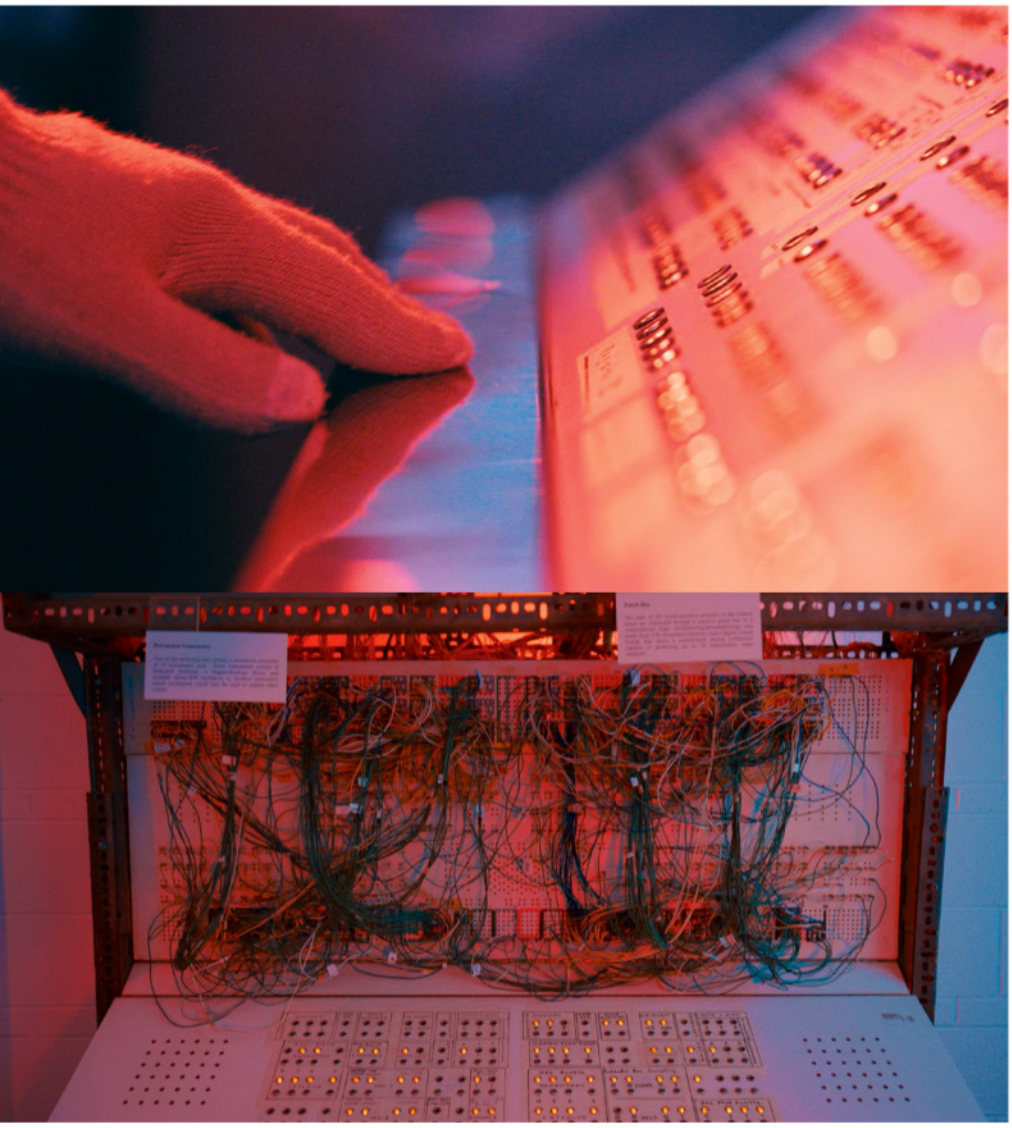
Corresponding with the archivist who takes care of the Sal-Mar from 2015 to 2019, Lange finally arranged to visit it. "And then when I did," he explains, "it was such an enlightening experience. It is a one-of-a-kind synthesiser."

How was his experience, after so much buildup and such a long journey across the US to see it, of actually using the instrument? Not to mention given that he only had one day to master what looks like an incredibly complex workflow! "So the archivist has a good understanding of getting you going and getting you started and getting you restarted," Lange explains. "If things get messed up and then you're on your own and then you're like, 'I have no idea what I'm doing'. You can read the words and understand what those words mean on the panels, meaning like clock or sequence or oscillation or whatever dividers, stuff like that. I'm like, 'oh, I guess this does this'. But it was like walking in the dark and slivers of light would pop in and you'd be like, 'okay, I'm going to keep going this way'. That was exciting as there's no expectation, and everything was a surprise."

When asked if it lived up to his expectations, Lange said: "When I was recording with it, it was just so disorienting because it's so idiosyncratic to someone's process and work style. This wasn't parallel to developments from the likes of Moog and ARP and people or companies like that making these synths that were more commercial; more for studios or more for musicians, specifically, to create musical formats or themes or ideas that were already kind of existing. But this was just, like, so much in its own world. So falling into someone's process like that was really fun."

Job done, you might think: historic synth, rich backstory, concept album in the bag. But it was not as simple as that, explains Lange. The initial joy at the sounds he produced during his day with the Sal-Mar soon, became complicated as he contemplated how to ultimately do them justice on record.

"I was kind of a little headstrong about what I wanted to do with them. I was being very special with them and protective of them. I was like, 'no, they have to exist in some kind of very specific format of creation' or whatever, something that was like... It was starting to become more about the idea than it was about the sounds. And I was kind of removing the intention. And so then I said, let's just use these sounds. I had some song ideas, and I started inserting some of the Sal-Mar idea sounds in there. It was inspiring, for sure. And whether you hear it a lot or you hear it not at all, it's still part of the process."



Lange meets Oliveros

It was in that lull period that a coinciding thread of inspiration – along those lines of celebrating the faces behind the musical machinery – formed, albeit unwittingly. The first track on the album is entitled *LFO (Lupe Finds Oliveros)*; the parentheses are useful, given that, even with the help of Google Translate, the Spanish-language lyrics aren't going to hand you the meaning of this sunny, psychedelic, icicle-defroster of a song on a plate, but nonetheless, it's worth the deep dive. "I always try to think of the best way to describe this without taking up too much time," laughs Lange.

We start with Oliveros: that is Pauline Oliveros, founding member of the San Francisco Tape Music Center in the 1960s and a pioneering experimentalist whose legacy is only just beginning to be unveiled. "Pauline is obviously somebody who a lot of people know. Her work as an educator, as a musician, as a philosopher, and her practice in deep listening, which is like this philosophy of connecting with yourself and the world through listening to it, listening with your ears, but also with your mind and connecting. Not necessarily like listening to music, but kind of like hearing what the world feels like and sounds like. And I didn't really come to understand or learn a lot about Pauline's work until I really got into it over the past few years. It was in my peripheral world, seeing or hearing her name, some tracks here and there. Something just resonated with me. This idea of deep listening, but just the work itself. I thought that was really beautiful."

Lange meets Lupe

And then ("on one of these deep, nerdy nights of me looking for this Fender Vibrachamp amplifier, kind of just doing this whole 55 tabs open thing") Lupe Lopez came into the inspiration mix.

"I stumbled upon this little mini forum that had this black and white photo of her sitting at a bench at the Fender manufacturing shop. And it says in the caption that she was building Fender Champs. And it was really striking to me in a lot of respects. There was a mystery to it immediately.

"I think what clicked was sometimes you don't think about the people who are making the things that you're using as a musician, but also as a human in general. There's such a disconnection or disconnect to that part of the process of what you're doing. So in a music world, you just go and get something and you start making something. There's no real connection to the people who put their hands inside those parts."

Lange started to learn about the following and market for these Lupe-built amps; it turned out he wasn't the only person drawn to this mysterious figure. "On the inside, there's an inscription on a piece of masking tape that says 'Lupe'. And I'm guessing they did that for quality control, to kind of help keep track of who was doing what. From what I gather, it's like, through her care and talent and touch, she was able to harness a specific sound that wasn't [there].

"I'm sure there were a few other amp builders there using the same design, same component, same stutter, same everything. But something she did with the amps that she made really seemed to resonate with people a lot.

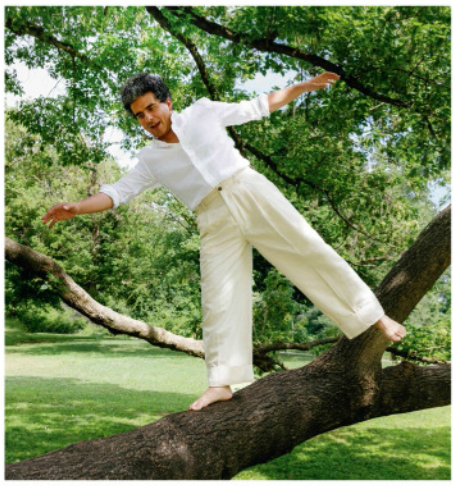


Photo: Sadie Culberson

Lange attempting to find some balance in his life

"I don't think anyone's ever thinking about the things that they're doing when they're making things just out of necessity, as we're all trying to work and pay bills. I'm sure she was in the same boat. She was like, 'oh, I got this job. It's stable, and I'm making amps'. I'm sure she wasn't thinking, like, 'my legacy of building these amps, it's going to be long'. And I love that. I love that there's just, like, a care that went into that.

"I think there are kind of these three points that I was referencing, this idea of how her intention and talent and care resonated over time, that it affected these people who were listening to these amps over time and using these amps that were getting inspired by the tone and the way to use them kind of touched back to this idea of deep listening. They were listening, and they could hear this feeling of what she was doing, and she was listening to herself by creating these in a very specific way. And I thought that was kind of like the big loop around with Lupe and Pauline and these people."

Lee "Scratch" Perry and sine-wave poetry

Putting all of it together, the album title refers to "a numerical vector for oscillation in physics and engineering". The backstory for that choice is reassuringly down to earth: "I remember there was like some Lee "Scratch" Perry video and I was watching him use a Mu-Tron Phasor that's spelled with an 'or' (as opposed to 'er'). And I was like, dope! [Laughs]"

The word got stuck in his head in a way that will be familiar to any of us who've stared at a Word doc for that bit too long. "I was like, what does phas-or actually mean? And then when I was looking up phas-or, I came to understand that the definition was a way to measure when two sine waves are essentially intersecting and understanding at what points they intersect in terms of either amplitude or frequency.

"I found it to be kind of poetic. I like this idea of a unit of measurement when things intersect. And I kind of thought about humans and people and our day-to-day of how we measure ourselves. When was the last time you hung out with your mom or your best friend? What was that like? And it's kind of like we overlap and come in phase and out of phase with these things. And there's just ways that we experience life. I really enjoyed taking that away."

Helado Negro's album *Phasor* is out now on 4AD for more information head to heladonegro.com

Everything going upwards: using software

Being as plugged into the analogue world as he is, you might think that Lange might be one of those signed-up members of the computer-avoiding pack, but coming from a computer arts and animation background in his early career, the picture is not so straightforward.

He is a long-time Pro Tools user since getting a free copy in ("I think") *Future Music* magazine in 1997. "Version 2.2, or something like that. It was like a four track recorder, and it had like a MIDI track as well. I made my first beats using that."

Then came a cracked copy of Ableton Live at college, and like many, considered it a game-changer for the storytelling it could do. "The plugins were so amazing. They were just so different and distinct from the stuff you could get in Pro Tools. I would use the things that friends would build, but use SuperCollider or like Max MSP as ways to process. And then Reaktor was kind of a big one. I would use Reaktor with my MPC and kind of build a lot of synths and control it via MIDI. And that was a huge part of my life, and it still is. If anything, I compose and create music with computers. When people ask me, 'what's your instrument?', I'm like, I play whatever I can to make what I can, but when I make my music, at the end of the day, however I get there, it ends up on the computer, and I'm creating and building and structuring it like that."

He continues: "I think that for a lot of people, or at least people who compose on computers, it's like you're building vertically, you're building in time that's in place, as opposed to a lot of singer-songwriters, who build in a linear sense. They're like verse, chorus, here it comes. But when you're thinking about music that's composed on a computer, everything is just going upwards, and then you're peeling back the layers and then restructuring them over time, but not necessarily moving through time in respect to telling a story. That's the way I look at it."

"When people ask me, 'what's your instrument?' I say I compose and create music with computers"

musicradar

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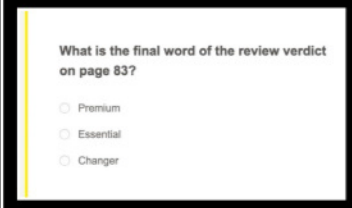
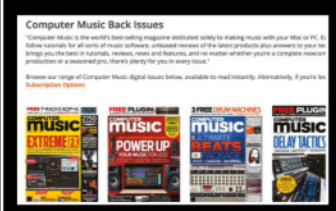


02 Click 'Start Quiz' and you'll be asked a series of three randomly generated security questions to check that you've bought the magazine. You can now download the content



03 If you enjoyed that issue, you can still purchase our back issues via **bit.ly/pocketmags-cm** and downloads for those will be kept at **filesilo.co.uk/computermusic**

Download all assets for this issue at **bit.ly/cm335downloads**

Epic sci-fi and strings

This month, we've seen the future in the shape of our epic sci-fi flavoured pack, as well as some emotion-stirring strings to bring us back down to Earth!

Epic Modern Sci-Fi

This month, the future becomes the present, as we indulge in some forward-looking spaceflights of fancy...

"For obvious reasons the synthesiser is the perfect instrument for sci-fi accompaniment. This sample pack goes interstellar with a selection of tempo-based lines and loops, one-shot tone drops/rises and chords. In programming the various instruments, focus was kept on the scenery, settings and elements of so much sci-fi: the void of space, blazing suns, titanic space craft, harsh temperatures, eerie darkness, etc. As the instruments don't fit neatly into bass/lead/pad type categories their names have been chosen to have some symbolic reference to their tonal qualities. Many of the samples within the four tempo folders are loops, but others didn't render as loops so well, due to their long reverb/release decays, so they have been cut down to size."

More detailed info can be found in Robbie's PDF in the sample folder

SELECTED GEAR

GForce OB-E and OB-EZ synths
Arturia V Collection
UAD plugins
Soundtoys plugins
Eventide plugins
FabFilter Volcano 3 plugin
Valhalla Supermassive plugin
Unfiltered Audio Dent 2 plugin
Cableguys ShaperBox 3
Steinberg Nuendo 12
(+ more listed in Robbie's PDF)

Emotional Strings

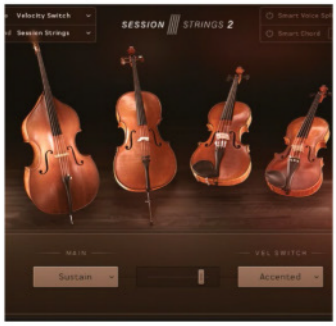
Sometimes you just need to let it all out, and Oli's pack of emotionally-charged string parts will give you all the feels...

"We've done a whole lot of soul-searching and delved into a wide range of emotions this month, in order to bring you our regular selection of samples. As this theme is quite subjective we decided to choose some wide themes and emotions and make some loops using both strings and synths, that will hopefully reflect these feelings.

"For the string parts, we leant more heavily into softsynths and in particular looked to Native Instruments' ever-useful and creative Kontakt sampler, mixing its stock library and a couple of extra add-on instruments.

"For the synth side, we split our attention between hardware and software and often layered both to get the sweeping, cinematic sounds we wanted.

"In particular, we have reconnected with the Korg MS2000R, a very hands-on digital polysynth from the early 2000s."



SELECTED GEAR

Korg MS2000R
Sequential Prophet Rev2
Emu Classic Keys
Alchemy
Fxpansion Strobe2
NI Kontakt
NI Session Strings
NI Orchestra
NI Hypha
NI Ethereal Earth
NI Bazzazian Tapes
Assorted software FX plugins

FROM THE cm VAULT

Classic samples
The 303 collection pt.1

In issue 303, we celebrated the Roland TB-303, the iconic bass synthesiser that became a staple of many a late-night rave!

Cyclick Three-03

In the first of four packs we commissioned back in issue 303, Robbie presented a delicious collection of some of those bedrock 303 grooves

"The Roland TB-303 has been cloned many times, an early example being the Novation Bass Station in 1995. Though it's not just a 303 clone, it traded partly on some factory presets that specifically mimic the 303.

"For this, the Bass Station is used with these emulation presets, with MIDI control of the main tweaks used while recording lines and loops, including cutoff, resonance, env mod and decay. The lines were derived from straight-up keyboard parts and arpeggiator runs. Three batches were made. The first was with the Bass Station running through analogue outboard (see below). Each loop was recorded separately, with controls tweaked in real time. These were recorded with either the saw (ramp) or square waveform. At the end, two multisamples were created from each waveform."

CM303 Acid

For pack 2, Robbie leaned into the tropes of the acid house scene that the 303 played a massive role in defining. Here's his overview:

"As an accompaniment to the 303 samples, this pack delves into '80s/'90s acid house for inspiration. There are three drum kits with two beats in each tempo, with two variants of each, plus a set of hits in the Drum Kits folder. The synths were then created over these beats.

"Then a set of 303-style lines were coaxed from the Bass Station and fed, via the Little Labs Redeye, into a chain of pedals. These started with the Boss GE-7 for initial tone tweaks, then through the distortions/fuzzes into the Moogerfooger Ring Mod and then into the Eventide Modfactor and the UA Starlight delay.

"The Starlight then fed into the Thermionic Culture Rooster for EQ and some 'attitude', and from there into the SSL G-Compressor, R24 EQ, Aphex Dominator and into AD converters."

SELECTED GEAR

Novation Bass Station Rack
Eventide MixingLink
Musitronics Mu-Tron III
Moog MF-101, MF-102 and MF-Trem
Universal Audio Starlight
Eventide Modfactor
Boss CS-3 and GE-7
Electro-Harmonix Octave Multiplexer, HOG, Doctor Q and Poly Phase
Fender The Pelt fuzz
Dr. No Octofuzz
Fuzzdog Bass Brassmaster and loads more (see PDF)

SELECTED GEAR

Novation Bass Station Rack
Moog MF-102 Ring Mod
UA Starlight
Eventide Modfactor
Boss GE-7
Dr. No Octofuzz
Fuzzdog Bass BrassMaster
Sandpit Umschwirren, Basstown Strangler and Scrambler
ProCo Rat distortion

Download all assets for this issue at **bit.ly/cm335downloads**

Loopmasters

Loopmasters **cm**335 samples

This month's demo sample selection highlighting Loopmasters' latest releases

01 **Singomakers** Psytrance Ultra Pack 3
02 **Beatport Sounds** Hardgroove
03 **Loopmasters** Soul Lounge
04 **H2ROGEN** Bass House Futurism
05 **Cinetools** Timekeepers
06 **Element One** Acid House Rave

cm/video

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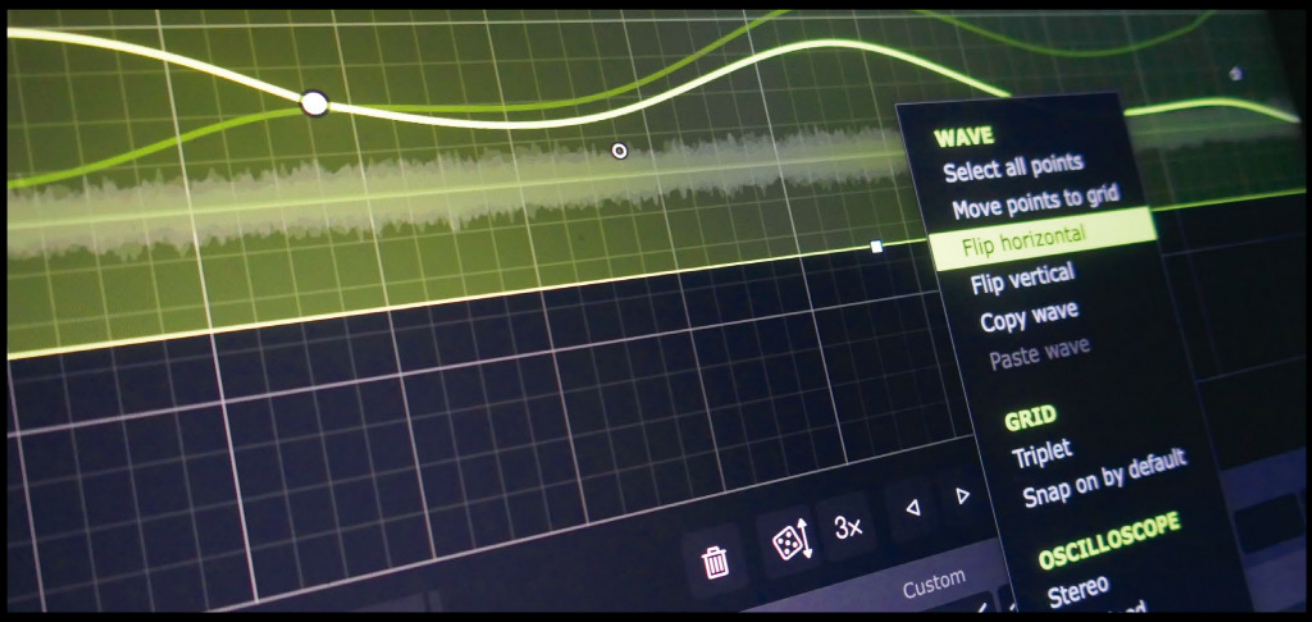
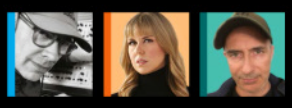


CABLEGUYS TIMESHAPER 3

Watch as we explain how to navigate the twists and turns of this time-defying free gift

Read the full article from p14

cm/experts



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- **FREE sample packs including Chilled Keys**
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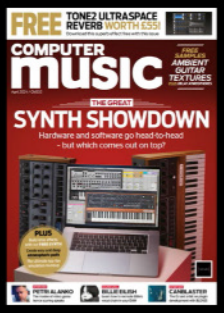

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Next issue

ON SALE WEDS 12 JUNE

How to mix better, forever...

In our next issue we're hoping to put mixing to bed once and for all, and build some solid chains that can be deployed across vocals, synths, pianos, beats and more. We've also got an exclusive, world-class plugin to throw into your mixing toolkit!

PLUS!

Jason Graves
The video game composer on his pro arsenal of synths

Free samples
We merge some strange synths with a platter of laid-back bass grooves

On test
Void & Vista Folds, Cherry Audio CR-78 and more...

COMPUTER MUSIC

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